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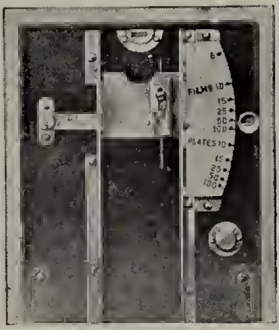

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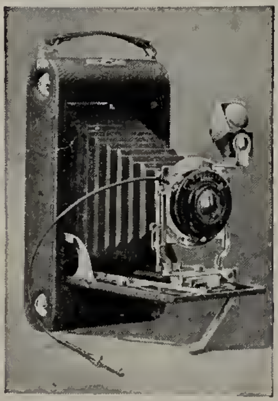

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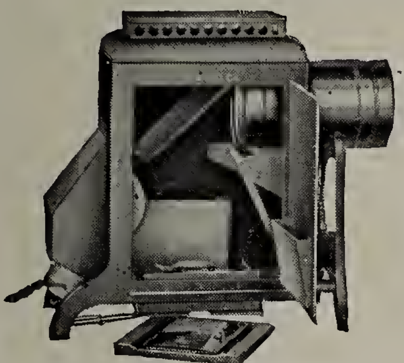

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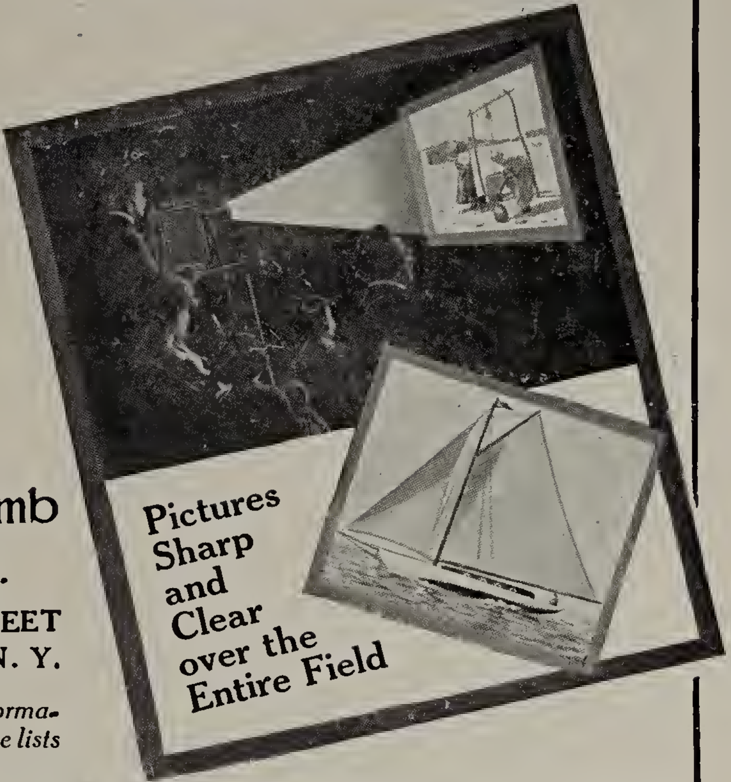

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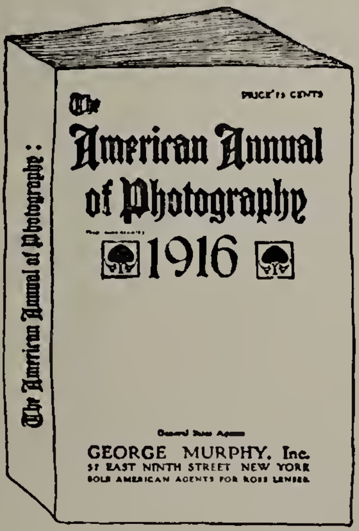
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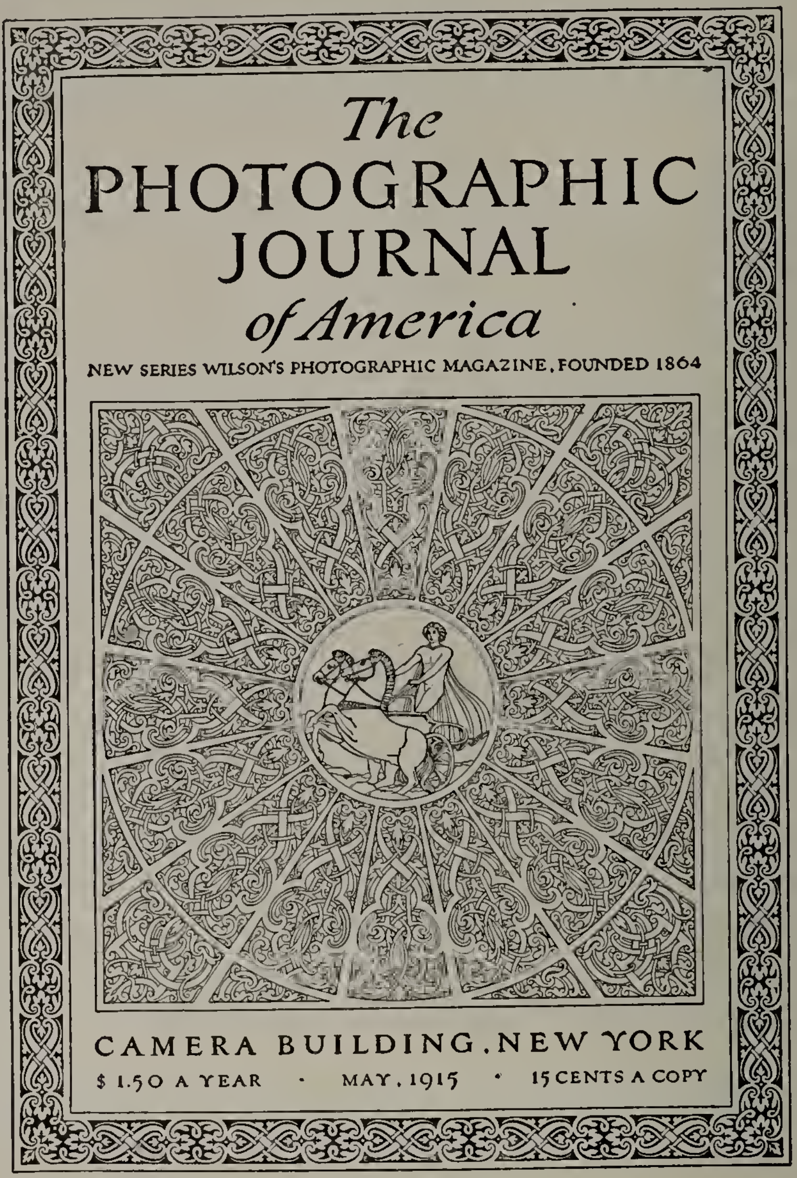

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Volume XLVII NOVEMBER, 1915 No. 11

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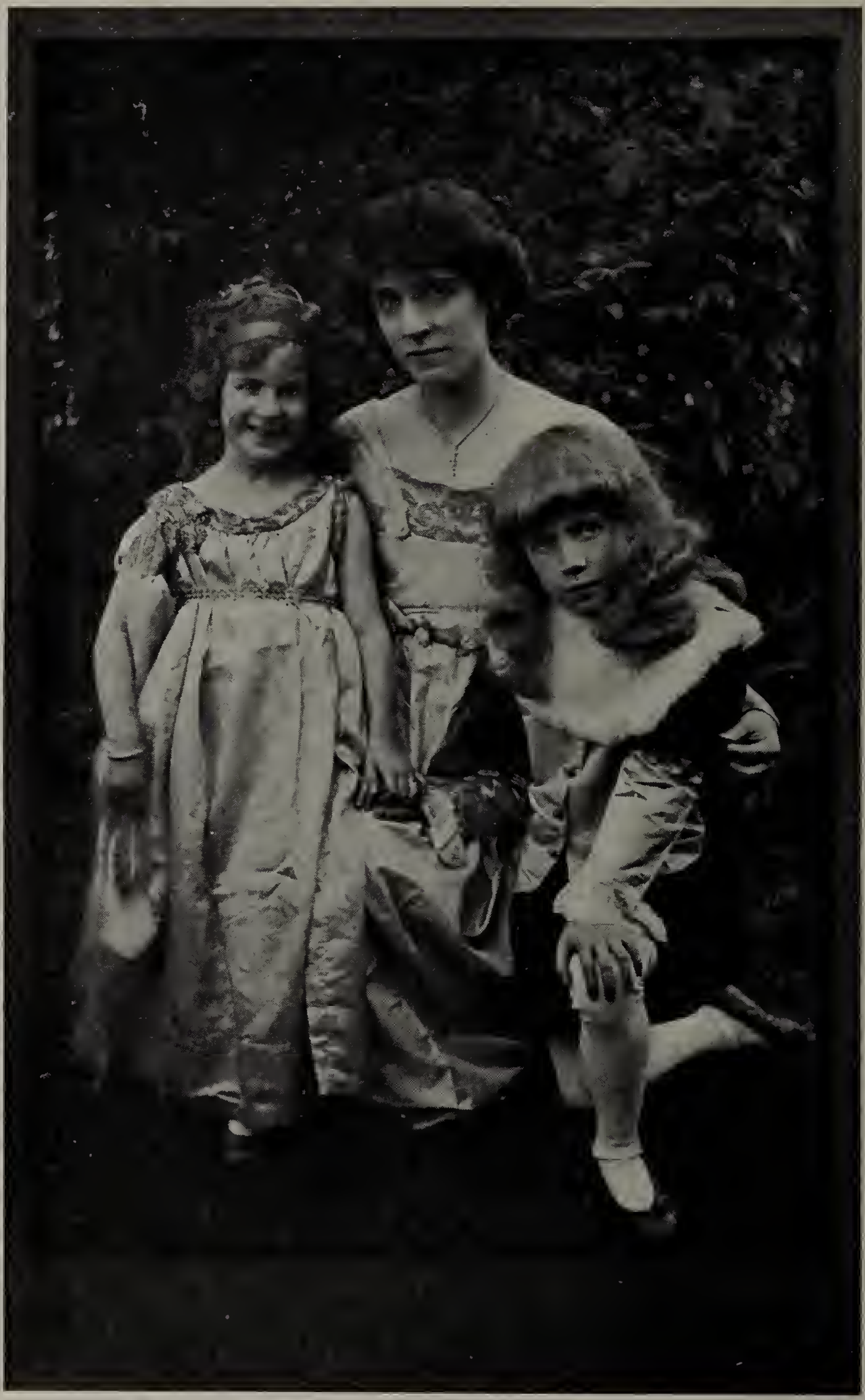

"CHILDREN'S DAY" *John A. Schreurs*

Highly Commended in The Photographic Times Print Competition

THE
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THE AMERICAN PHOTOGRAPHER AND ANTHONY'S PHOTOGRAPHIC BULLETIN

VOLUME XLVII NOVEMBER, 1915 NUMBER 11

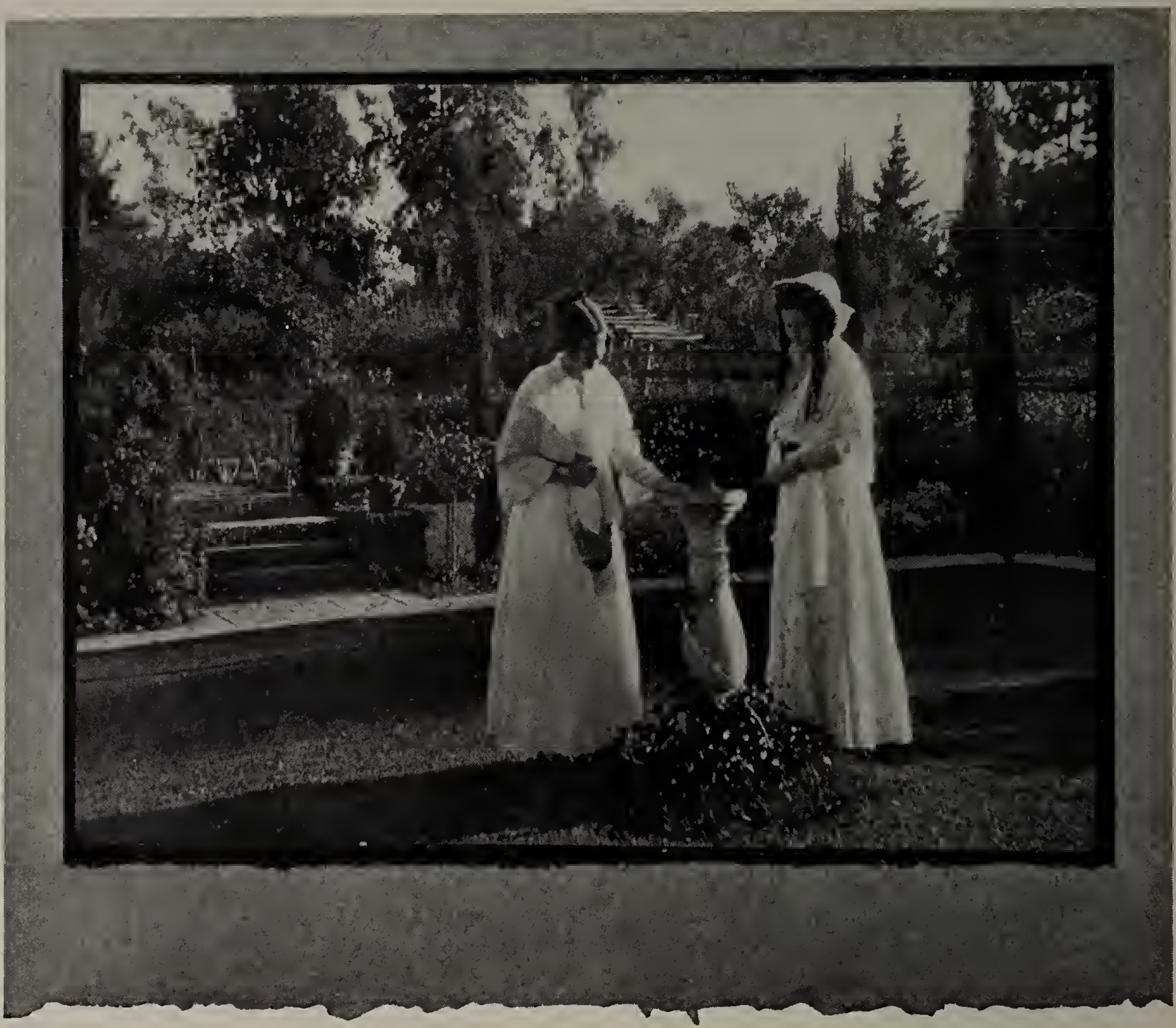
THE PHOTOGRAPHIC TIMES PRINT COMPETITION

THE past season has presented an unusual opportunity for outdoor work, both in landscape and figure, and the result of The Photographic Times Print Competition, which closed September 30th, has proved most interesting as well as gratifying. It is of interest to note, that, notwithstanding the wide field this competition presented, the majority of prints submitted were of landscape, and comparatively few of figure. In addition to the three prize-winners, and the pictures receiving Honorable Mention, there were nearly a dozen which were highly commended by the Judges. We regret that we are not able to reproduce all of the latter in this number, but they will be presented to our readers in subsequent numbers of The Times.

The first prize was awarded to Miss Elizabeth B. Wotkyns, of Pasadena, California, for her charming picture entitled, "The Sun Dial." Miss Wotkyns is known to the readers of The Photographic Times for her striking animal pictures. "The Sun Dial" was taken in a good light, during the month of July, about 4:30 in the afternoon, with an exposure of 1/25th of a second. This was made by an Eastman No. 3 F.P.K., with an R.R. lens on Eastman speed film. The picture is 6½ x 8½, enlarged on P.M.C. glossy bromide. Another picture submitted by Miss Wotkyns is "A Glimpse Through the Arch," which the Judges have highly commended, and which we take pleasure in showing in this issue.

The second prize is awarded to Mr. R. B. M. Taylor, of Newark, N. J., for his very effective figure picture, entitled, "Making Friends." This picture is an enlargement on Cyko Platinum, and was made by a Popular Pressman Camera, on a Defender Orthochromatic Plate, at about 5:30 p. m. in August, with an exposure of 1/50th of a second, in a fair light, and a stop of f/4.5. Mr. Taylor also sent several other enlargements, which received special commendation by the Judges.

Third Prize, entitled "Summer Days," was awarded to Mr. J. M. Kinney, of Muncie, Ind., and is very expressive of a well-chosen title. One can note the sheep in the shade on this summer day. This print, Mr. Kinney



"THE SUN DIAL" *Elizabeth B. Wotkyns*

First Prize in The Photographic Times Print Competition

tells us, was made in a bright light, about 11 a. m. in July, exposure one-half of a second, stop f/32, on a C.26X plate, printed on Professional Cyko paper.

The first picture to receive Honorable Mention by the Judges is "The Portrait Study," by Mr. John Buell, of Whitewater, Wis. This was made on a Cramer plate, with Helier No. 5 lens, quick bulb exposure.

The second picture to receive Honorable Mention is, "Behold! I Pierce the Clouds," by E. D. Leppert, of Junction City, Ore. This is a particularly fine sample of landscape, on Orthonon plate. The lens was an R.R. with four-time filter, stopped at 32, one second exposure in a bright sunlight. Mr. Leppert submitted several other prints and that of "The Prospector" was particularly commented on by the Judges.

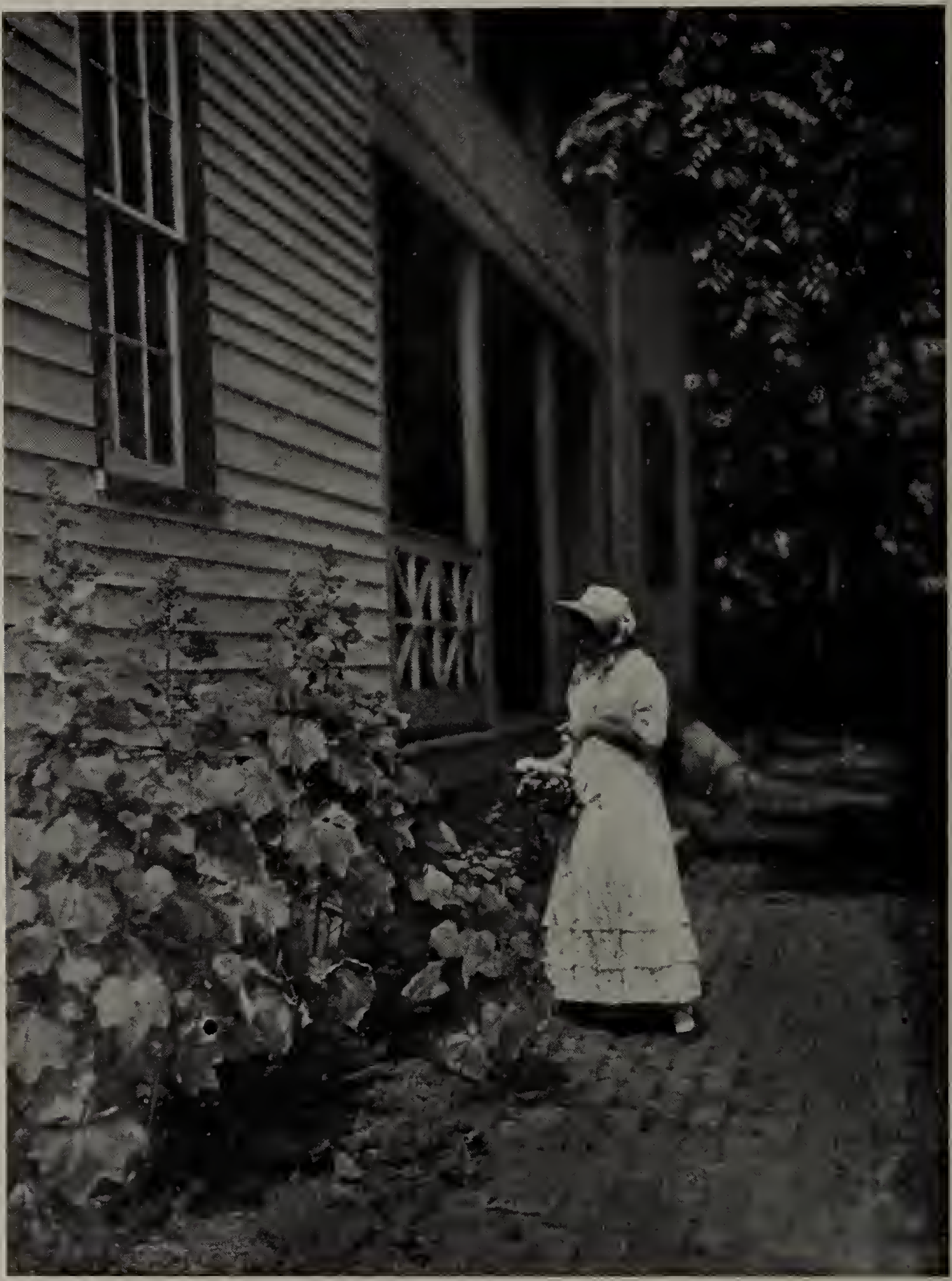
The third print to receive Honorable Mention is entitled "In Sunset Glow," by Wm. S. Davis, Orient, N. Y. Mr. Davis is well known to the readers of The Times, and his pictures are always of a high quality. This print is an enlargement on Velour black paper, with a rough surface, effectively toned in Sepia with sulphide, and stained

"MAKING FRIENDS" *R. B. M. Taylor*
Second Prize in THE PHOTOGRAPHIC TIMES Print Competition

with analine. The original sheep study was taken on a hazy November afternoon against the light, exposure 1/10 second, stop f/11, single Achro lens, on a Cramer Inst. Iso plate. From this the enlargement was made, and the clouds printed in from another negative; then a new negative was taken from this combination print. This method Mr. Davis has explained in his article on "Combination Printing," in our October issue.

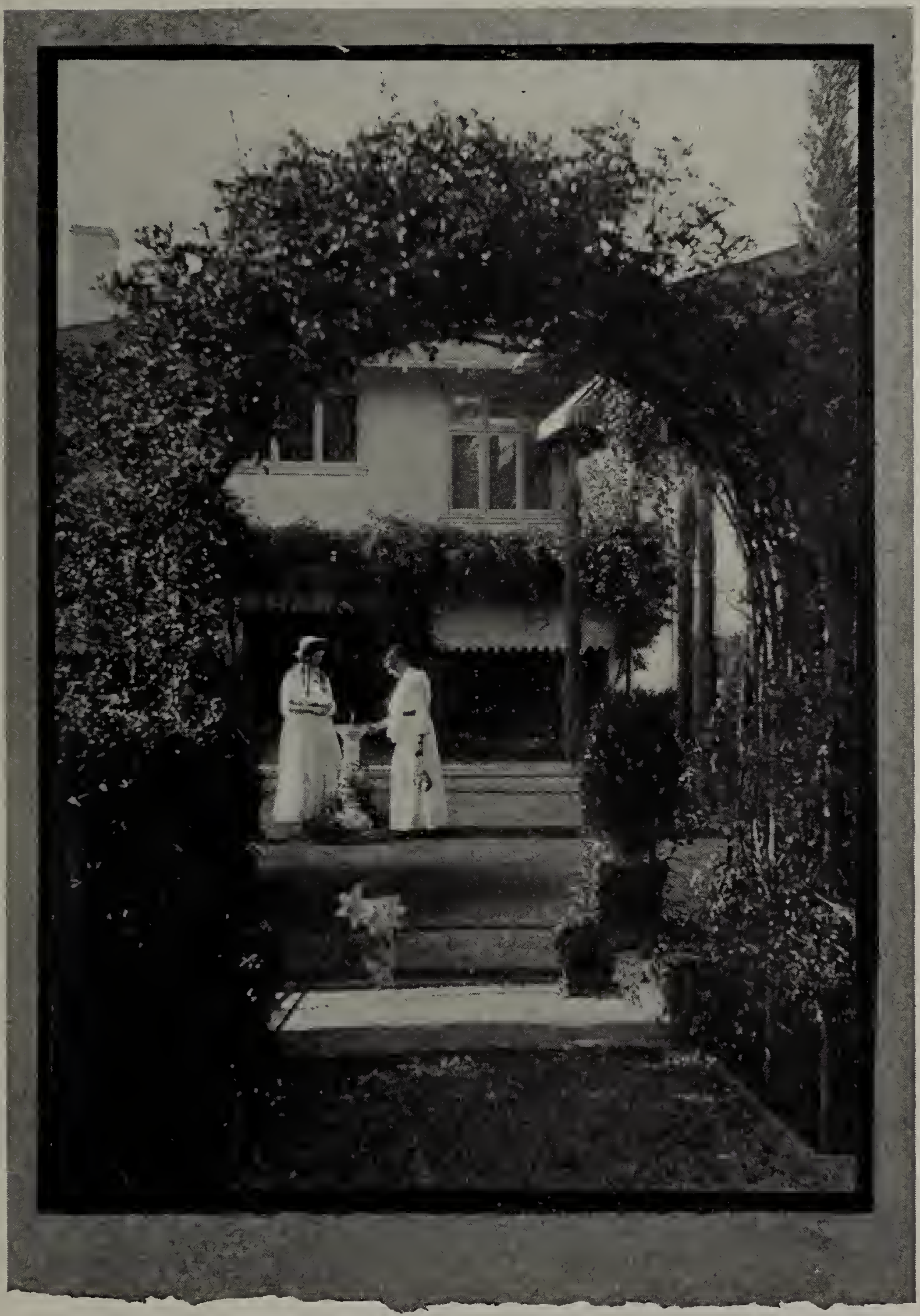
The pictures Highly Commended by the Judges which have not been awarded prizes, or otherwise mentioned in this report, are as follows: "When the Pigs Eat," by A. R. Brown, Melrose Highlands, Mass.; "A Breezy Upland," by Charles F. Rice, Mamaroneck, N. Y.; "The Rapids," by H. A. Brodine, Pittsburgh, Pa. Mr. Brodine also sent several other effective prints, one especially being, "Entering the Harbor." "Midsummer," by Mrs. C. S. Hayden, Catonsville, Md.; "Beaverkill Falls," by George H. Heydenreich, East Orange, N. J.; "By the Lake," by H. M. Edwards, New Brighton, N. Y.; "Sunset," by J. H. Field, Fayettesville, Ark.; "A Glimpse Through the Arch," by Elizabeth B. Wotkyns, Pasadena, Calif.; "Coaxing the Last Spark," by R. B. M. Taylor, Newark, N. J.; "Children's Day in the Park," by John A. Schreurs, Highland Park, Ill.

Other pictures, not of high enough merit in the estimation of the Judges to receive Honorable Mention, or High Commendation, nevertheless received high approval as excellent examples of



"MID-SUMMER" · *C. S. Hayden*

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition



"A GLIMPSE THROUGH THE ARCH" *Elizabeth B. Wotkyns*

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition

"WHEN THE PIGS EAT" *A. R. Brown*

Honorable Mention in The Photographic Times Print Competition

"SUMMER DAYS" *John M. Kinney*
Third Prize in THE PHOTOGRAPHIC TIMES Print Competition

outdoor photography. Some of the more distinguished in this group are: "The Summer Girl," portrait, by Wm. Ludlam, Jr.; "The Westerning Sun," by Alice Willis, St. Louis, Mo.; "Outdoors in Winter," by Floyd Vail, New York City; "The Sun Path," by Miss Anna MacRae, Clarksville, Tenn.

HOW STRANGE IT SEEMS

To think this little photograph,
On common paper lightly cast,
May look into your face and laugh
When I myself have wholly passed.
—*Ella M. H. Gates, Harper's Magazine.*

"BY THE LAKE" *H. M. Edwards*

Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition

"BEHOLD! I PIERCE THE CLOUDS" E. D. Leppert

Second Honorable Mention in THE PHOTOGRAPHIC TIMES Print Competition

AUTUMN WOODLANDS

BY J. H. SAUNDERS

WHEN autumn stains the woods with gold, photographers should be just as busy as they are in the summer months. For one thing, the camera is particularly successful in dealing with mist, and this, combined with the fact that the subject is more or less composed of shades of brown, makes the task of rendering in monochrome not so difficult as when the woodlands are a blaze of vivid green.

Again, there are other circumstances which favor the landscape photographer at this season. The contrasts to be met with are generally less violent, and there are many days when the air is quite still, allowing us to give exposures as long as may seem to be necessary, and making the task of determining the correct exposure more easy.

It is essentially morning work, and I invariably arrive upon the scene of operations before the sun makes its appearance. As the real spirit of an English autumn is illustrated in pictures where the beautifying effect of mist or combination mist and sun is shown, I would particularly impress upon photographers the importance of being in the woods before the sun gains power and disperses the mist entirely.

"A BREEZY UPLAND" *Charles F. Rice*
Highly Commended in THE PHOTOGRAPHIC TIMES Print Competition

Subjects can be secured in autumn that are not possible at any other season, because compositions are simplified, the mist obliterating irritating backgrounds and causing them to emerge into a delicate suggestion of distance.

How often when engaged in landscape work have we been attracted by a few trees that composed well in the foreground but were utterly spoiled as a picture, because the subject behind was too confusing? A note made of such subjects as these, and a visit paid to the same place in the early morn of an autumn day, will often be well rewarded.

Mist and sun effects are very fleeting, and the photographer must be prepared to take quick advantage when the ideal morning occurs. A few minutes on such an occasion may make all the difference between success and failure.

The plan I adopt is to have my compositions arranged in rough fashion beforehand. A few previous unproductive visits taught me this wisdom. Several times on ideal mornings I had ventured forth in search of atmospheric woodland effects, only to find that when I had composed a likely subject on my ground glass all atmosphere had disappeared and the distance was just as distinct as the foreground. Now I make up my mind what part I shall photograph, and before the photographic outing I pay a visit to the place and memorize all likely subjects, so that when I take my camera

"IN SUNSET GLOW" *Wm. S. Davis*
Third Honorable Mention in THE PHOTOGRAPHIC TIMES Print Competition

I have no necessity to waste precious time in search of compositions. Naturally, the woodlands visited are in the vicinity of my own town, and in no case more than five miles away from home.

It might seem rather an arduous task to cover the ground twice before getting to work; but when one is specializing it is better worth while to secure one success than half a dozen indifferent results.

As the subject is mostly of brown shades, it is evident that ordinary plates are of little use, and we require color corrected plates. Orthochromatic plates with a five times screen, or self-screened plates, will translate the autumn tints into effective monochrome, but the best possible plates are panchromatics, which do better justice to the red browns. As they require more careful handling, many photographers fight shy of them.

Some very fine effects can be got by photographing against the sun, but it must be done before the latter gains much power.

In conclusion, I would advise the photographer to put on a stout pair of boots and leggings, as it is exceedingly wet amongst the undergrowth in the early mornings of autumn, and when one feet's are wet enthusiasm also is quickly damped.—*Photography.*

A NEW FIXING BATH FORMULA

BY G. WATMOUGH WEBSTER, F. C. G.

I AM about to disclose for the benefit of the readers of The Photographic Times what I believe to be an entirely new formula for a fixing bath for bromide prints that I have had in successful use for some considerable time.

We might first consider what are the functions of a "fixing bath" and show how they have been performed hitherto. They are, first, to remove the unused silver salts, next act as a stop to arrest further development (for it is well known that a print if not fully developed will go on developing for a while even when washing in plain water); and finally, to act as a tanning or hardening agent upon the gelatinous surface of the print making it less liable to injury while being washed, and, incidentally, to prevent blistering in cases where the paper is liable to that defect, which unfortunately, since the war has prevented the obtaining of the raw paper and cardboard from the usual continental sources, is no uncommon defect in the substitutes.

Possibly the tanning action is the one on which most store has been set, and it has been carried on in a variety of ways. Many photographers use an intermediate bath of common alum before placing the prints in the hypo solution, but by far the commonest plan is to add the powdered alum to the hypo solution in various ways. The printers employed by one of the largest producers of the small midget photographs in this country (he has eighteen branches) simply add a handful of powdered alum to the hypo solution and disregard entirely the milkiness caused by the precipitation of sulphur that ensues and I may say I have seen many of his photographs several years old which were quite free from fading, and, indeed, as fresh looking as on the day they left his studio. But perhaps the commonest method of all is to make a bath containing both alum and an acid. Various acids are recommended and the formula published by a large manufacturer here is a favorite. It consists in adding sulphuric acid to a solution of sulphite of soda and then mixing this solution with a solution of hypo and finally adding alum solution, with violent shaking. If done successfully, which does not always happen, there is scarcely any milkiness produced and there is obtained a useful acid, hardening fixer. But at the best if the solution is kept in glass bottles they soon become opaque looking from a deposit of sulphur on the inside of the glass vessels. Personally, I exceedingly dislike bottles or utensils with any deposit upon them, and I found when using this formula that the bottles were readily cleaned and the deposit removed by pouring a little strong hydrochloric acid, the common muriatic acid or "spirit of salts," of the stores suffices. A small quantity poured into the empty bottle (previously rinsed out with water) and

"BEAVERKILL FALLS" *Geo. H. Heydenreich*
Highly Commended in The Photographic Times Print Competition

then by shaking the bottle made to pass over the whole surface will quickly soften or remove the deposit and leave a perfectly new looking bottle after being washed out with a few changes of water. Instead of acidified sulphite solution meta bisulphite of potash, or bisulphite lye, can be used, but the moment there is any alum added down comes the sulphur, and whether it introduces an element of danger or not one's feelings revolt at using a decomposed hypo with possible danger to permanency.

Some printers prefer to use chrome alum, but there is no special advantage claimed for it and besides it is more costly than common alum—potash alum.

From these initial remarks it may be concluded that a hypo fixing bath containing alum and an acid that will not deposit sulphur and will not become milky may be looked upon as a typically perfect fixer.

I need not describe the large number of experiments I made in ringing the changes with the various acids and strengths till I finally chose citric acid as the one offering most advantages and least likely to cause precipitation. This acid seemed the best and I used it in compounding the bath till the happy thought came to me of adding citrate of ammonia in view of well known reactions to the solution. "Eureka!" I cried. At last I discovered how to make an acid alum hypo bath which never goes milky and does all that is required in fixing prints as set out in the earlier part of these remarks and the following instructions will enable any one to make this perfect fixer which I confidently expect will take a place in all makers instructions, and in the text books in the future. Now we all know how conservative photographers are and how loath to add another chemical to their shelves, hence a new formula will have a better chance of trial if it involves the employment of no other chemicals beyond those already in stock. In giving formula for various solutions and the formula to follow takes count of his conservatism. As a rule I prefer to state quantities in terms of the solid chemical itself when giving proportion but in this case I propose not to adhere to my usual rule but give the method of compounding the new bath in terms of *solutions* of definite strength, as no photographer with any pretentions to system would make up a plain hypo bath by dissolving the crystals as he wants them. The same with sulphite of soda, for, notwithstanding all that has been written about its gradual absorption of oxygen, a Winchester quart (half a gallon) of twenty per cent. strength will be practically as useful at the end of a month as when first made provided the bottle that holds it has a good stopper, and this, too, if the bottle be several times used from. Therefore, let the following solutions be kept ready for use—a

50 %	Solution of hypo
20 %	Sulphite of soda
25 %	Citric acid
6½%	Common alum

Ordinary stout ammonia solution (SG 880) a Winchester of both is made as follows: Larger or smaller quantities can easily be made by multiplying or dividing these quantities: To 1 ounce citric acid solution add 40 minims of strong ammonia solution. (The mixture will become quite hot but that does not matter.) Add this mixture to 8 ounces sulphite solution. After well mixing add this liquid to 20 ounces alum solution and shake well. Finally add this combined mixture to 32 ounces hypo solution and make up with water to a bulk of 80 ounces. We then have a fixing bath containing 20 per cent. of hypo, that being the most commonly advised strength. The bath remains quite clear for weeks, and no danger to permanency need be feared as regards prints fixed in it. The whites remain pure and the softest surface is rendered hard and resisting to friction while washing.

I may say in this connection that a ten per cent. hypo bath has much to recommend it, especially with those papers which have a tendency to curl in washing and curled prints are liable in the washing trough to stick together like a number of saucers. The tendency is less with weak hypo. I hope as many of my readers as possible will try this new bath. They will never go back to the old system.

There are besides certain other special advantages attaching to its use; but these I will not now discuss and will leave to some future article.

MAKING PRINTS IN TWO OR THREE COLORS FROM ANY NEGATIVE BY CHEMICAL MEANS

BY "CHEMICUS"

HOW to obtain prints in various colors from the ordinary negative has been the dream of many. Prints steeped in a dye, giving a uniform color, is a very easy matter. In all such cases the whites of the prints suffer and become degraded, while the blacks are not really altered in color. They remain the same, with a superficial covering of dye. Chemical toning has been known and practiced for many years, for instance, the changing of the color of a platinum print or a bromide or chloride developed print, but in any instance the color is uniform, simply changing the color of the print in monochrome from one color to another. The object sought is how can a print be made from an ordinary negative, no matter whether it be a film negative or one upon glass, and give a variety of colors so united that they will represent the original object. The process to be described is *not* one that might be termed a process for securing photographs in natural colors. It is a process by which several tints or colors may be produced by chemical means upon the same print, and by this means approximate natural colors. The prints that are best suited for this class of photographic work, are those made by development upon either chloride or bromide papers. The prints must *not* be hard and contrasty; they must be of the grey variety, produced by a somewhat weak developer, correctly exposed and developed. The object being to secure detail in every part of the print, because it will be in those parts that have a faint metallic deposit (namely a slight tendency toward half tone) that the colors will prove to be the most brilliant. The prints must be thoroughly washed before attempting the coloring, because a remaining trace of the fixing chemicals will affect the colors, and aid in staining the paper, thus producing a different color to that desired. The following chemicals will be necessary for the production of the various colors. The quantities given are about the smallest that can be purchased at a reasonable price.

Acetic acid No. 8	4 ozs.
Nitrate of manium	1 oz.
Protosulphate of iron	1 oz.
Ferricyanide of potassium (In an amber colored bottle.)	1 oz.
Dry vanadium chloride	½ oz.
Oxalic acid	1 oz.
Ferric oxalate	1 oz.
Ferric chloride	1 oz.
Powdered alum	1 oz.
Hyposulphite of soda	1 lb.

The following solutions must be made from the above and kept ready for use. When making these solutions distilled water must be used, because the various impurities contained in ordinary water are likely to affect the results. The ferricyanide of potassium, generally known as red prumiate of potash, must be mixed and kept in an amber colored bottle because the action of light upon this salt will affect its chemical properties and prevent the color from being deposited. The solutions are made as follows:

Nitrate of manium	10 grains
Water	5 ozs.
Ferricyanide of potassium	10 grains
Water	5 ozs.
Protosulphate of iron	10 grains
Water	4 ozs.

The following preparation is made up in one solution:

Water	10 ozs.
Vanadium chloride	10 grains
Ferric chloride	5 "
Ferric oxalate	5 "
Ferricyanide of potassium	10 "
Oxalic acid	15 "

Having these solutions made, a bath must now be prepared consisting of

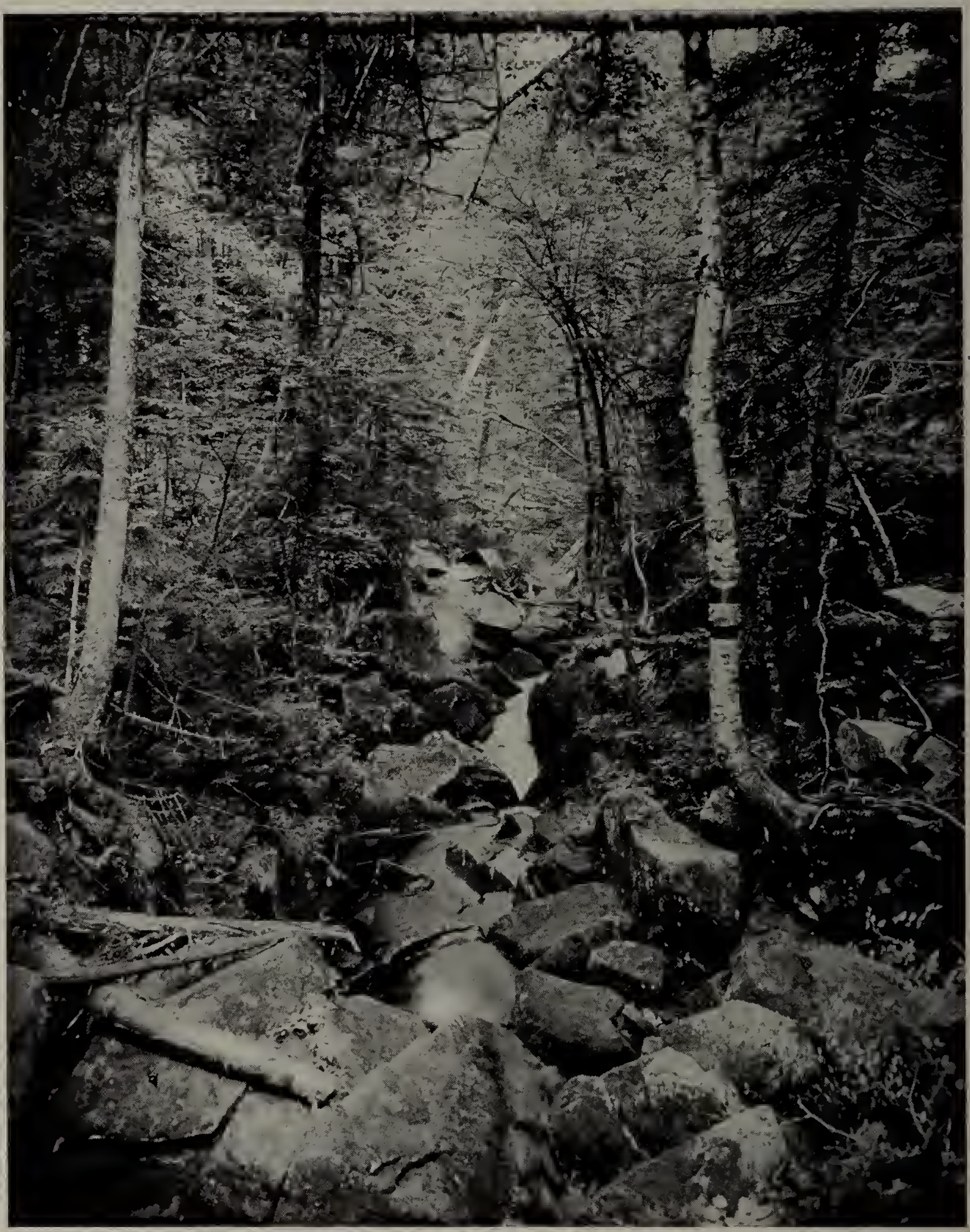
Water	10 ozs.
Hyposulphite of soda	2 ozs.
Common alum	20 grains
Acetic acid No. 8	1 oz.

If a deposit of sulphur takes place, the liquid must be filtered. This solution may be used many times over. It is used as a clearing solution. Having the prints ready for their chemical treatment, take one, lay it back down upon a sheet of blotting paper, place a small quantity of nitriate of uranium solution in an egg cup, also the ferricyanide of potassium in another egg cup, add a few drops of acetic acid to each, in fact, make the solution very acid. Place in two more egg cups a small quantity of the protosulphate of iron solution, in one, and some of the vanadium solution in the other. Obtain four camels' hair brushes, set in quill (metal set brushes will not do). Use a separate brush for each solution. Place over the face of the portrait, for instance, which may be of a lady with a floral decoration upon the breast, a small quantity of the nitrate of uranium, also upon the arms or hands, taking care not to allow this liquid to cover the eyes; this done, place a drop or two of the ferricyanide solution upon the uranium, mixing it carefully so as not to overflow. Now, in any part that blue should appear, cover that part lightly with the ferricyanide solution, then add a drop of the protosulphate of iron solution, and in like manner, for green, use the vanadium solution. In the course of a very short time, the various colors will become deposited, a true pink, bordering upon red from the uranium, a true blue by the admixture of the two iron salts, and a green from the vanadium preparation. In the last instance the color may incline to blue until the print is well washed, then the green color will appear. As soon as the colors have presented themselves, place the print into a tray of clean water, handling it with care so that the liquids do not run over any other part of the print except where the color is desired. Wash the print well, then pass it through the acid hypo solution for a half a minute to one minute, then wash it thoroughly, blot it as nearly dry as possible with clean white blotters and dry by suspending with a clean wood clip. The result will be highly gratifying and the colors can be regarded as permanent. In the case of a view, landscape, sea view, or a homestead, especially where the house may be constructed of red brick, the various colors will lend a very charming effect to the scene. A little practice may be required to secure the best effect. A trial or two will

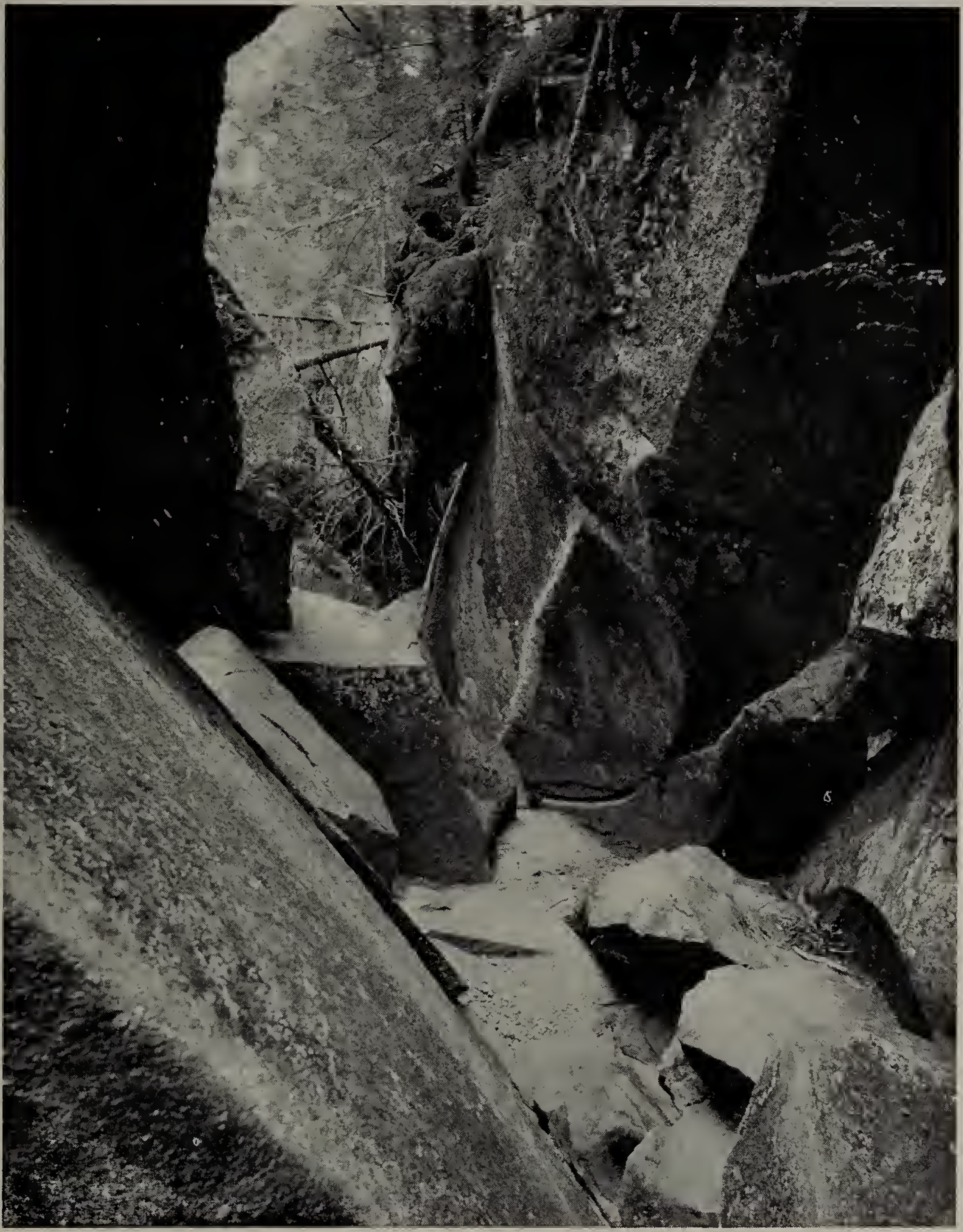
"THE RAPIDS" *H. A. Brodine*
Highly Commended in The Photographic Times Print Competition

lead to this. The process will give much pleasure to those who attempt it, and produce photographs in several colors that have been deposited by chemical means. The quill brushes that are used for this work must be well washed to free them from the various chemical solutions, then squeezed dry in the folds of clean blotting paper and laid aside for future use. The various solutions described will keep well if placed away from active light and used at any time required, except the small quantities in the egg cups. These must be poured away and not returned to the stock bottles, because of any slight contamination, which cause a colored precipitate to be formed and thus spoil the stock solutions. A faint blue tint given to the eyes in some portraits will add to the charm of the picture. Under no condition, however, must the blue, red or green mixtures come into contact upon the print. This would spoil the print, unless it is desired to produce a blue face with red eyes, so as to be suggestive of the blues. A nosegay of flowers and the ornamental portions of a vase may be rendered in very rich colors by this means of chemical coloring.

* * *



"LOST RIVER" (before it disappears)
See Editorial Comment



"LOST RIVER" (where it disappears)
See Editorial Comment

A GROUND-GLASS SHADE FOR QUICK FOCUSING

BY CARL THUNIUM

ZANNNNNNNNNNG. At once you recognize the voice of the aeroplane. Guided by the sound, you see it overhead. Quickly you snatch your camera from its case. It takes but an instant for your practiced hands to open the front and pull out the bellows. But now comes the focusing. You try to do it without the cloth, but you can't see anything. You then pull the cloth out of the case and try to put it over your head. It struggles in the wind like a thing possessed. At last you succeed in almost excluding all light, and in the meanwhile you have the pleasure of holding the camera straight, holding the fluttering cloth tight, and keeping the ground-glass door open, all in one hand.

The focusing of the tiny machine having been done to your satisfaction, you put in the plate-holder, draw the slide, and look around for the aeroplane. There it is! but so tiny that it would be too small in the picture to show any shape. Ah, if your focusing had taken you less time.

Having gone through an experience like the above, I devised a little shade for the ground glass as in illustration (Fig. 1). The weight of the door (Y) of the ground-glass keeps the whole contrivance open so that, if I look through the opening, my head excludes all light, and I can focus perfectly without loss of time. If the door hinges from the top, simply hold the camera upside down. Another advantage of it is that the shade is a part of the camera and takes up no extra room.

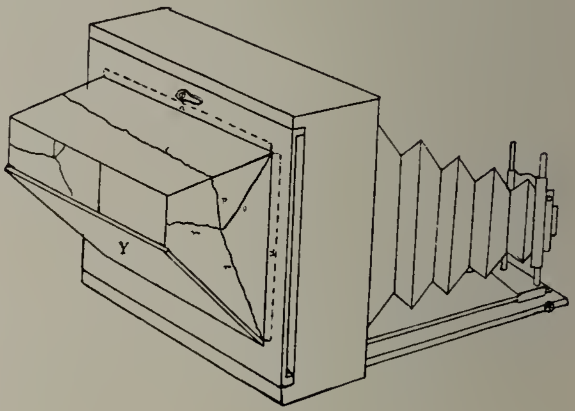


Fig. 1

The material for this shade may be a piece of dark, stiff cloth (like imitation leather) or a piece of very thin leather. If there is very little space between the door and the ground-glass, use the thinnest available material that answers the purpose; if there is plenty of room, use two pieces of thin cloth with cardboard (visiting-card kind) pasted in between them (see next to last paragraph).

First, measure the dimensions of the ground-glass door, and on a piece of paper draw a rectangle ABCD (Fig. 2), having dimensions one-sixteenth of an inch less than those of the door. For example, if the door is 3 1/8 by 4 1/8, the rectangle will be 3 1/16 by 4 1/16.

Then, draw CF at a large angle X (nearer 90 degrees than 60 degrees) to DC. The larger the angle is, the

"CURIOSITY" Walter K. Bachrach

broader the opening, and vice versa. Make CF equal to DC. Draw GF at angle X to CF and equal to CF. Connect D to G. On the other side draw ABEH similar to DCFG. All the five flaps as an illustration (Fig. 2).

Cut out figure, lay on cloth, and cut shape out with sharp knife. If none is at hand, trace the form with a pencil and cut out with scissors. Crease all edges (AB, BC, DC, etc.) sharply.

Spread glue on flaps u, v and w and push them in between the ground-glass and its frame (Fig. 1), of course, putting flap v on the side opposite to the hinge of the door. Or remove ground-glass, paste flaps to frame, and then replace glass. Glue the other two flaps to the edges of the door, so that the door forms the fourth side of the box.

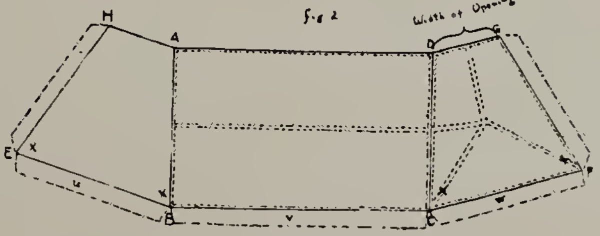


Fig. 2

If cardboard is used (see above), the dotted lines in Fig. 2 show the size and shape of the pieces.

With a blunt point go (approximately) over the lines m, n, o, p, r, (Fig. 1), so that fabric should crease there easily. Now close the door and the entire shade will fold up within. If the job is neatly done, the shade will open and close with the opening and closing of the door, and nothing will show on the outside.

THE REFLEX CAMERA—SOME PROS AND CONS

BY A. MANN

THE following remarks are intended chiefly for the man who contemplates buying a reflex camera and is somewhat bewildered by the diversity of patterns shown in the catalogues of practically every maker worthy of the name. These instruments have now been brought to such a pitch of perfection that so far as actual construction and workmanship go there is very little to choose between them, but their variations undoubtedly cause some types to be better for certain work than others. It is hoped that the following notes may prove of service to those who find it a matter of difficulty to arrive at a choice.

Perhaps the most important feature of a reflex is the focal-plane shutter. There are roughly two distinct types, those having an adjustable slit and those which have a long blind with three or more fixed slits of different widths; both are provided, as a rule, with arrangements for increasing the spring tension. As a rule, the former type allow quicker adjustment, and the latter are, perhaps, rather more simple and less likely to get out of order. Some models are fitted with one key only; this determines the exposure by the amount it is wound up, and is, in many respects, ideal; the only drawback appears to be that this provides an alteration of the slit only, and not of the tension as well, and it is an axiom in focal-plane shutter work that one should always use a high tension and wide slit rather than a narrow slit and low tension, the reason being that if an object is moving laterally and a narrow slit is used, moving relatively slowly, the image on the plate has moved slightly by the time the slit has reached the bottom, consequently vertical lines are shown inclined. There are at least two high-class reflexes on the market fitted with a front-lens shutter working in conjunction with the mirror. For exposures from one-half second to 1-100th these are ideal.

Many a subject is lost in sport or street work by a shutter which takes a long time to wind. A quick wind therefore offers certain advantages to the "rapid" worker. It is also of considerable advantage to have a self-capping blind, which renders the accidental exposure of plates by leaving the plate-holder open when winding the shutter impossible. It is, also, at times very convenient to be able to alter the slit after the shutter has been wound, and some models allow for this.

Perhaps the chief drawback to focal-plane shutters lies in their not giving sufficiently long instantaneous exposures. Most are marked to give 1-10th sec., but this is frequently about 1-20th. There are times when 1-5th or 1-4th would be of considerable value. It is, of course, common knowledge that very few shutters work at anything like the high speeds that are shown on the indicator. However, it is of no practical importance; one practically never requires less than 1-600th sec., while 1-300th is sufficient for a great deal of high-speed work.

"PORTRAIT STUDY" *John Buell*

First Honorable Mention in THE PHOTOGRAPHIC TIMES Print Competition

After the shutter, perhaps the mirror mechanism is the next most important feature to consider. Here, again, there are two distinct types, spring and thumb raised. In the latter case the mirror is raised by pressing down the release, and when it reaches the top the shutter is set off. Obviously, there is a small interval between these operations, and it is claimed by some workers that a spring mirror allows less interval between pressing the release and the actual exposure. One advantage of the spring type lies in the fact that it is usually possible to invert the camera over the head, and, looking up into the hood, focus and expose. When working in crowds this is of great advantage at times. If the thumb-raised pattern is preferred, note that it rises perfectly smoothly, and is well balanced. In either case it is a good feature if the mirror rises with a double movement, upwards and backwards, as this allows a lens of shorter focus to be used when desired. In some patterns a split mirror gives the same advantage.

Let us now consider the hood. Although this differs considerably at first sight, it will be found that makers have again followed two distinct patterns; in one the hood is tapered towards the top when seen from the side, and cut to fit closely the eyes and nose. This, by shutting out stray light, gives a very bright picture on the screen, but rather limits the view, as will be shown later; the other type is fairly square in plan, and allows the eyes to be moved about more. The advantage of this lies in the fact that the portions of the picture lying on the sides and corners of the screen can more readily be made out. When using a stand camera one has to move one's head about considerably to get the picture bright at each portion of the screen, and it will be seen that when the eyes are fixed right above the middle of the screen, only the middle portion of the picture will be quite clear, and it is extremely difficult to see the head of a person at the top of the screen, or make out details on either side. The deeper the hood is the less is this noticed and the brighter the picture, and since the accuracy of focussing depends largely on the brilliancy of the image, and the chief justification of the reflex depends on its ability to render exact focusing easy, it will be seen that a deep hood is most desirable. The only drawback to it is that the deeper the hood the lower must the camera be held in use, but the advantages quite outweigh this consideration.

Other points of importance are the camera extension, which ought to be at least double the focal length of the lens normally used, and rigid when extended fully; the focusing knob, which should be of large diameter (an inch is none too large), and, of course, on the opposite side to the shutter release; the focusing screen, which is much better if it is constructed to work ground side uppermost, thus avoiding troublesome reflections, and should be removable to enable the mirror to be dusted carefully with a soft brush; the hood should also be quickly detachable without the use of any tools, to clean the focusing screen, and it is considered by some an advantage if the hood is reversible, so that the camera can be held sideways for taking people unobserved.

A feature which is to be met with on too few high-class reflexes is the swing front. This is of almost inestimable value in high speed work, as by tilting the front forwards (with the lens looking slightly down) objects in the immediate foreground as well as in the distance can be both brought to a sharp focus without stopping the lens down. The movement is also of value when taking street scenes from a height.

In conclusion it may be pointed out that the prospective purchaser of a reflex will probably meet with a certain amount of disillusionment when he first sets out to use the instrument. The writer well remembers his expectations of seeing a bright and brilliant picture on the focusing screen, showing the exact limits of the subject with ease; in reality only the center portion of the image is quite plain, and there is some difficulty in making out any detail on the sides of the screen. This is, of course, less noticeable with a deep square hood, and with a screen fitted ground side on top; but it is always less than the user imagines it will be. Another drawback is the difficulty of inserting slides and drawing their shutters while the camera is held with the other hand. In practice it is really necessary to hang the camera round the neck with a sling, leaving both hands free for manipulating the slides and setting the shutter. Some workers may object to this, and also to the considerable weight and size of the camera, the latter consideration being, of course, overcome to a great extent by the folding varieties. However, in spite of these shortcomings the reflex scores heavily; it is indispensable for a large field of work, and it is not likely that it will be superseded by any better form of hand camera. The importance of accurate focusing right up to the moment of exposure cannot be over-estimated, and this is especially the case with the modern large-aperture tele-objectives.—*The Amateur Photographer.*

"COAXING THE LAST SPARK" *R. B. M. Taylor*
Highly Commended in The Photographic Times Print Competition

SECURING PICTORIAL NEGATIVES WITH AN OLD RECTILINEAR

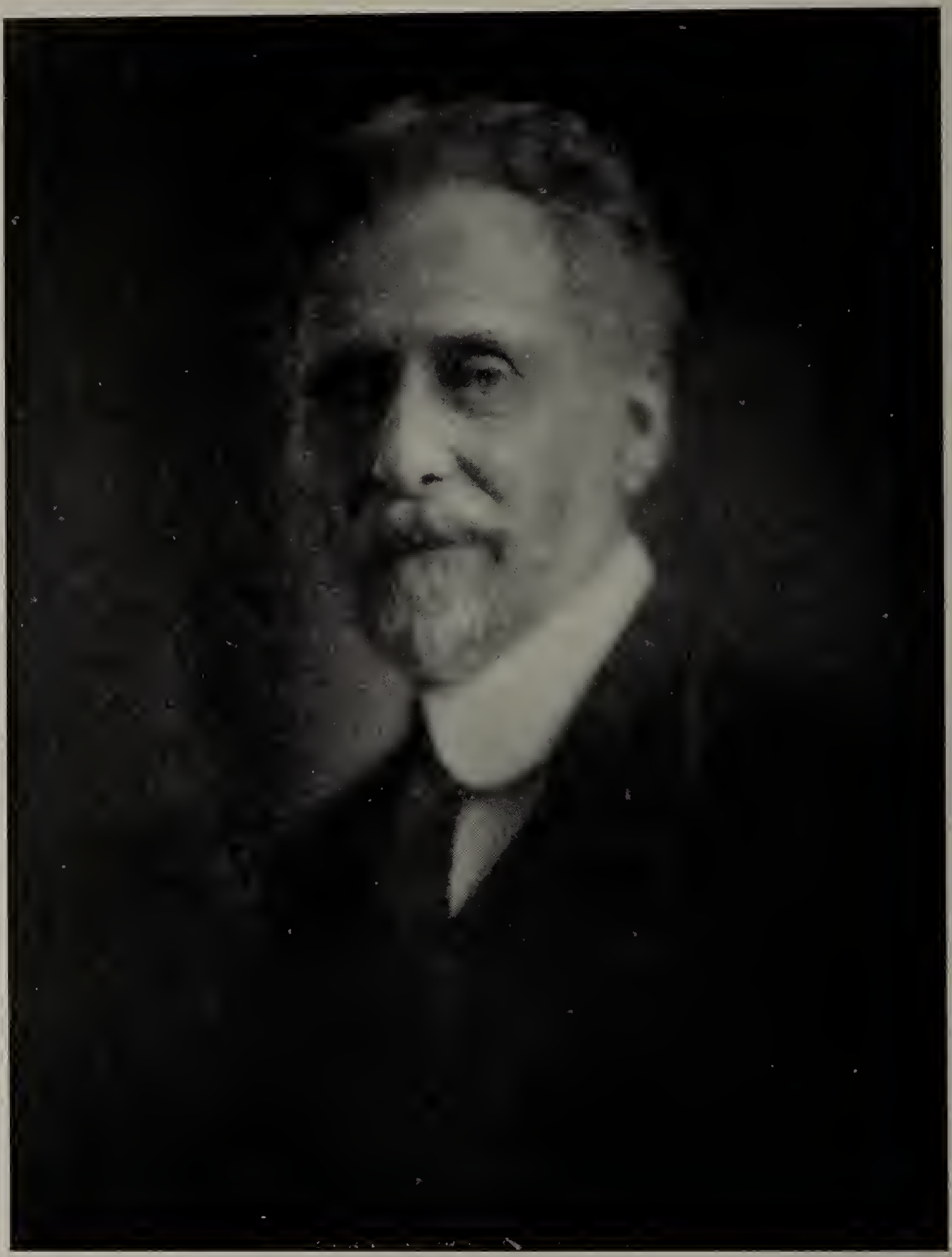
BY L. C. BISHOP

IT is interesting to note the growth of one's love and appreciation of pictures. The young child is charmed by the crudely colored print, the cruder and broader it is the better he likes it, because he understands that kind. But as his mind grows he is able to grasp the meaning of a print more delicately colored and each year adds to his discrimination until he is able to enjoy the work of the world's greatest masters.

And so, also, is it true of camera work. Our first crude efforts look beautiful to us, but, as we progress, we set a higher and higher standard for ourselves. Can we not all remember those first prints which looked so good to us just because we managed to get onto a plate as much of a view or as much of a person as we wanted and got them sharp? But we would not own to making such pictures now. No, indeed! We have gone a long way since these efforts. We are putting more *art* into our work and not trusting so much to luck.

A true interest in any line of work surely tends to create a desire for greater skill and achievement *in* that work. And, so, the first thing we know, we are wishing we could throw away our old apparatus and purchase one that will allow us to make more pictorial things, such pictures as we have seen in the photographic magazines, or if we have been lucky, in the exhibits of the camera clubs.

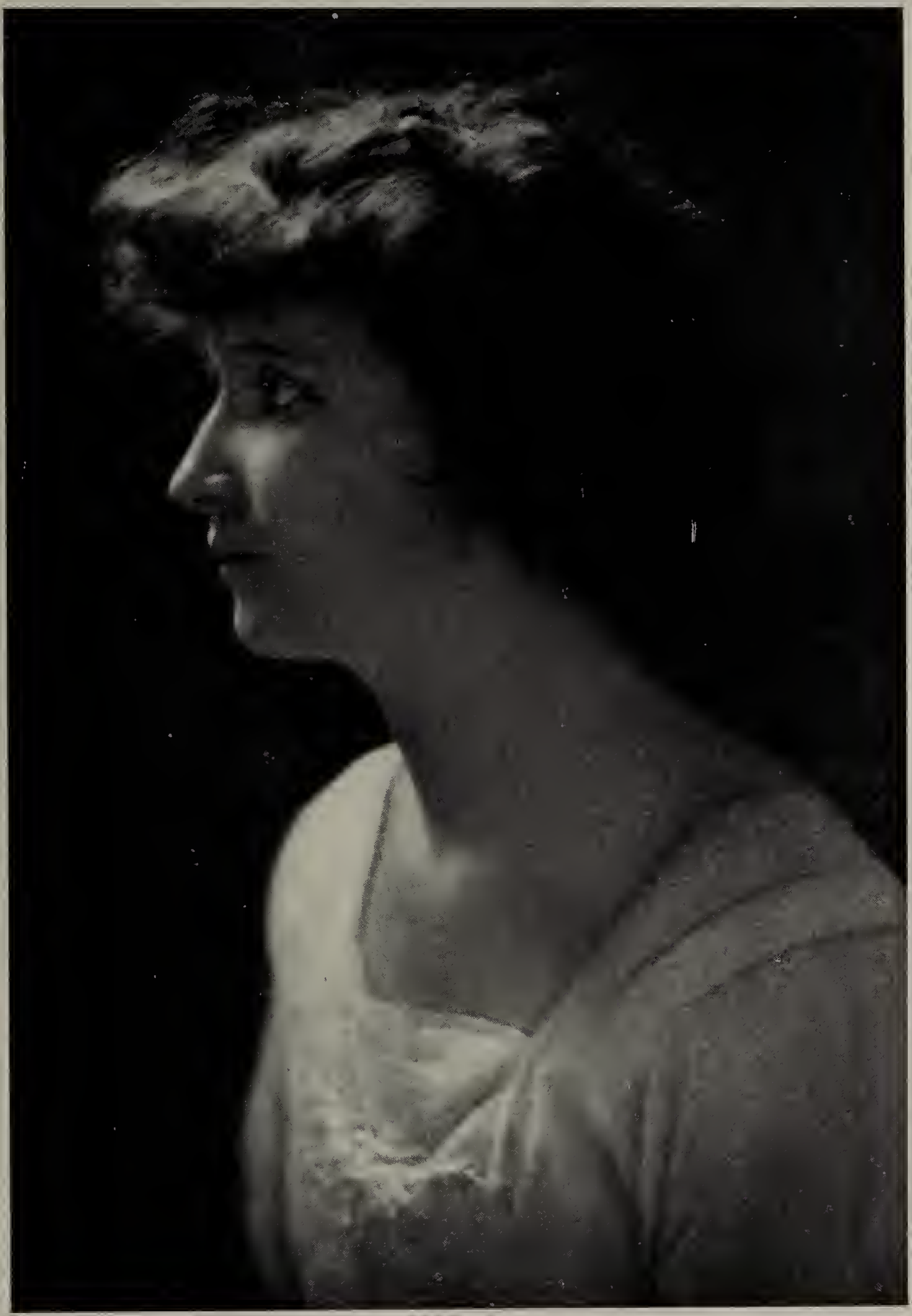
Where definition is necessary, as it is with groups and small figures where



"PORTRAIT" *L. C. Bishop*

the faces are small, the rectilinear and anastigmat lenses are well suited. But in making larger portraits or outdoor subjects they are the wrong instruments, even if used wide open. A woman's portrait in which the hair is shown in soft masses is much more beautiful than one in which each hair claims attention. Nor do we care to see each pore in a man's skin or the woolly threads in his coat.

To get the pictorial quality, the soft, broad effects which make the portrait so much more as we actually see our subject in life—to get this quality we know we need one of the soft-focus lenses. But they are usually so much larger than the lenses we have been using that they would necessitate the purchase of a larger camera. Then there would also be the problem of a new shutter.



"PORTRAIT" *L. C. Bishop*

We have tried using the portrait attachment in the regular way—that is, over the front combination, but found it made the lens too short focused—this spoiling it for portraits. However, there is a way out of these difficulties (as there almost always is if we but search far enough), and the method, through many years of service, has proved to be both practical and reliable.

Let us go back to the portrait attachment mentioned above. As we have noted, using it as one is directed to use it, makes it too short focused, which is disastrous to successful portrait work. But try it another way. Remove the front combination of your regular lens and replace it with the portrait attachment. Upon trying it out you will find that the focus, instead of being shortened has really lengthened and there is also a greater depth of focus, which is the result of dividing up the sharpness by the use of the attachment. Where finer definition is desirable one can stop down and secure the effects obtained by a very high grade anastigmat.

These supplementary lenses can be secured very cheaply from any camera dealer and the larger sizes can be purchased from the supply houses. When ordering one must give the exact diameter of the barrel which is to take the attachment.

The old rectilinear fitted up in this way excels many of the expensive soft-focus lenses and is successful in both portraiture and outdoor work. In my own experience this method worked so well with the usual cameras that I had made to order several attachments for the larger lenses and in each case they have given perfect satisfaction. The resulting negatives have those qualities we find so necessary to our enjoyment of pictures, qualities the amateur sometimes despairs of getting on account of the limitations of his outfit.

DEVELOPING THE NEGATIVE

In producing work which we desire to have a pictorial quality we must make each process conform to our idea and add its own part to the completed whole. The really great pictures made by photography have been produced only in this way. Although we may have formed an idea of a beautiful picture and used a lens which gives soft edges, we may lose the effect we are striving for by faulty exposure and development. A developer which is excellent for producing soft, grey, atmospheric effects when the subject calls for it, is given below:

Dissolve 1½ ozs. Sulphite of Soda (dry) in 4 ozs. water.

Dissolve 1½ ozs. Carbonate of Soda (dry) in 4 ozs. water.

Mix the two solutions and add: One oz. Pyro solution and 10 drops of a 10% solution of Bromide of Potash.

The Pyro stock solution used is 1-16 with 10 grains of Oxalic Acid used as a preservative.

In making this stock solution first dissolve the oxalic acid in the water before adding the Pyro.

A normally exposed plate will flash up quickly in this developer but should be carried to full density notwithstanding.

But should the subject be one in which the contrasts are very strong, for instance, where there are deep shadows, which may require ten times the amount of exposure needed for the lights, were the lights alone to be considered, development must be altered. The best way to handle such a subject is, first, to keep the darkroom cool, if possible, say down to 60 degrees. Then use a dilute, restrained developer. Nothing could be better than one which has been used for D.O.P. prints, one made from a standard formula diluted four to six times its bulk with cold water. The negative should be allowed to develop very slowly to the desired density, so long as it remains clean and clear. Should it begin to fog take it out of the developer, fix and intensify. The following formula is most valuable as intensifying can be done immediately after fixing. A good rinsing is all that is necessary.

INTENSIFIER

Mercuric Chloride	1-10 oz.
Water	8 1-3 ozs.

Add slowly a ten per cent. solution of potassium iodide, until the precipitate first formed is re-dissolved. (About one ounce will be required.) When clear add:

Sodium Sulphite (dry)	1 oz.
Water	8 1-3 ozs.

This solution keeps well in a dark colored bottle and can be used repeatedly, until exhausted. It is a good plan to rock the tray in which plates are being either reduced or intensified, both ways, as then the action will be more even and not so liable to streak. After gaining the amount of density desired with the above formula, wash the plate a few minutes and treat it with a five per cent. solution of sodium sulphite, then wash for a half hour.

Many of our readers are now using highly color-sensitive plates with deep ray filters, but I have found that ample exposure (with proper development and temperature, which is always necessary), overcomes the difficulties of negative making in all but extreme cases. The developers above given are designed to give special effects but in general work no better formula could be given than the following:

EDINOL STOCK SOLUTION

Water	32 ozs.
Edinol	¼ oz.
Hydroquinone	¼ oz.
Sodium Sulphite (dry)	13 drams
Potassium Carbonate (dry)	.25 drams
	Or 3 ozs. 60 grains
Bromide (saturate solution)	.20 mms.
Oxalic acid (10% solution)	1 dram

WORKING DEVELOPER

Use stock solution 2 ozs. in 8 ozs. water in the winter.

Stock solution 2 ozs. in 12 ozs. water in spring and fall.

Stock solution 2 ozs. in 16 ozs. water in summer.

When a negative is known to have more than a normal exposure start it in a developer composed of

Edinol stock solution	3 ozs.
Water	12 ozs.
Acetone stock solution	2 ozs.

This acetone stock is made by combining

Acetone Sulphite	1 oz.
Water	7 ozs.

If the desired amount of detail does not develop freely finish in

Edinol stock solution	2 ozs.
Water	12 ozs.

No acetone solution required.

A CONVENIENT ADJUSTABLE PLAN BOARD

BY O. G. MASON

THE manufacturers of apparatus for professional photographers have failed to furnish at least one essential item of his equipment. Photography now has so vast a field of application in art, manufactures and education, that a wide awake man, who hopes to keep up with the demands upon his skill, must be prepared to furnish illustrations of almost all visible objects.

When a map, engraving or photograph is brought in for copy and is found to be too large for the plan board of his copying camera, the photographer should not be obliged to "tinker up" some temporary device for doing the work; he should be prepared for conveniently placing in proper position without risk of damage or loss of time, and his apparatus should be so constructed that it may be easily moved about and admit of the plan board being shifted in any direction, up or down, or across the field of his camera lens.

My own experience in all fields of photography, extending over more than half a century of time, has lead to the construction of the device shown in the following illustrations.

The apparatus is light, weighing about 20 pounds, although about 4 by 6 feet; is rigid and very easily adjusted It can be put up or taken apart in less than five minutes, and without the use of any tools. The several parts are held in position by five loose pins and six thumb screws.

The several illustrations show the construction so plainly that any lengthy description of details is not necessary.

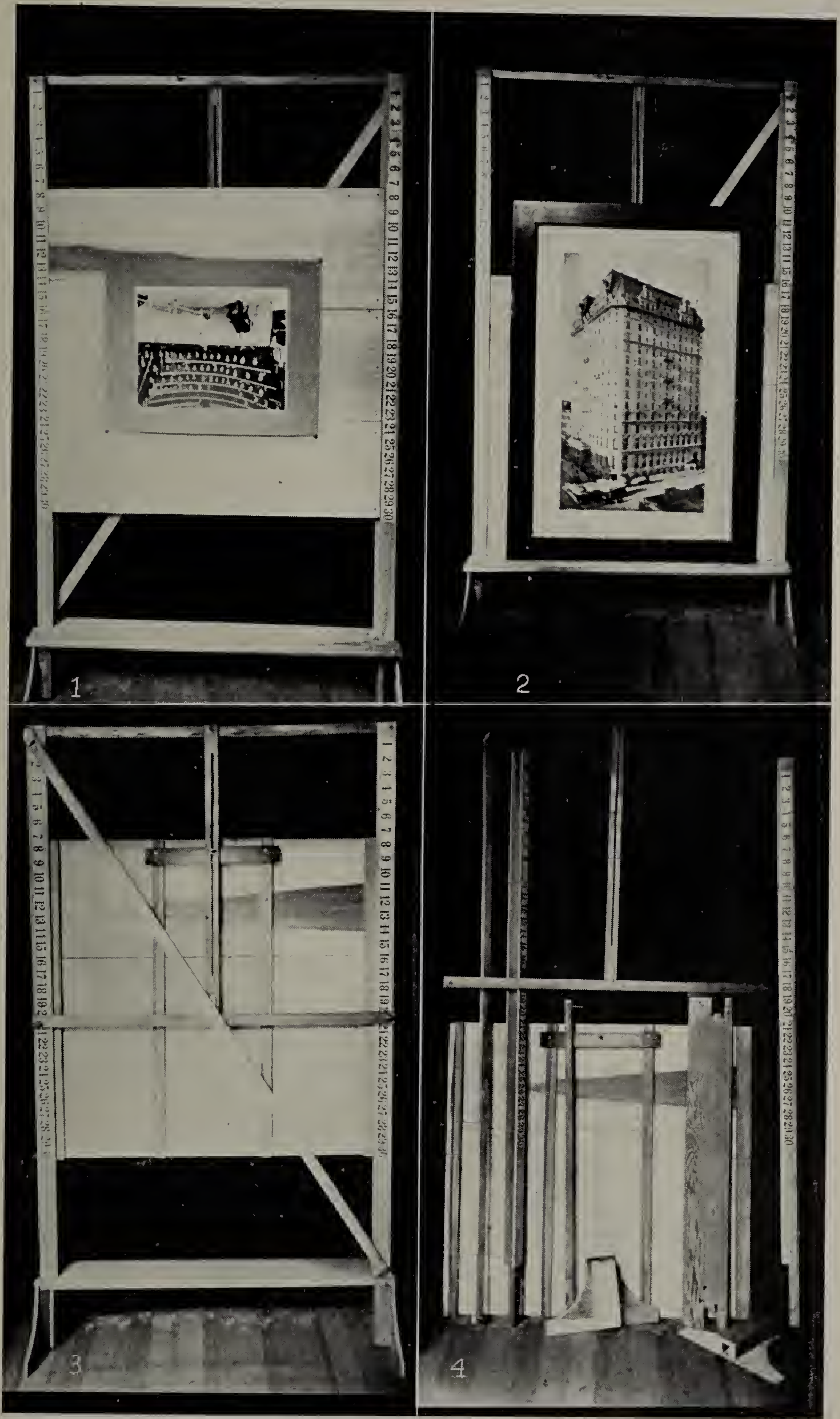
Figure 1 shows the plan board elevated to about central position (the height of the ordinary camera stand) with a large photograph of a clinic at Bellevue Hospital; the photograph being upside down for more convenience in focusing on the ground glass of the camera.

Figure 2, shows a photograph 4 feet high, in a frame, standing on a shelf at the bottom of the easel, a handy position for paintings or heavy objects.

Figure 3, shows the back construction of braces and method of holding the sliding plan board at any chosen elevation.

Figure 4, shows the dissected device; the grooves in the uprights in which the plan board slides, the detachable feet, the shelf, the top bar and the cross bar, with its upright tongue, with slot in which slides the set screw to hold it in position for clamping the plan board in position.

The whole can be tied in a bundle for easy transporting to studio, shop, library, or any point from which the work cannot be taken to the photographer's studio.



A CONVENIENT ADJUSTABLE PLAN BOARD

SHUTTER EFFICIENCY

BY WM. H. JOHNSTON

IN estimating the value of a shutter, there is something more than the speed to be taken into consideration. It is comparatively easy to produce a shutter capable of stopping any motion one is likely to find, but there probably would not be enough light admitted to affect even the fastest emulsion. A shutter, therefore, must compromise between speed and illuminating power; and the chief problem in shutter-making is to produce the greatest illumination at a given speed. In some cases, this object seems to have been overlooked.

The first figure, drawn approximately to scale, shows a type of shutter commonly used on box cameras. Although such cameras are not usually the most expensive, nevertheless the low cost is not the excuse for the inefficiency of the shutter. The improvement would not increase the complexity or the expense. In this type a disk of metal rotates in front of the lens. The opening in the disk is shaped as indicated by the dotted curves. If, however, it were of the form shown by the solid outline, a larger portion of the lens, evidently, would be uncovered at the given instant. This advantage would exist in varying degree throughout the time of opening and closing; but the duration of the exposure would not be altered. During the time that this shutter is uncovering the lens, its efficiency is about 43%; that is, it admits 43% as much light as would pass through the wide-open lens in the same time. The improved model would attain about 57%. In both of these cases, the lens is fully open for a considerable part of the exposure, and this decreases the discrepancy so that the figures for the entire exposure are 67% and 76%. In view of the number of under-exposures that fall to the lot of the snapshot novice, it might be worth while to save this bit of light that is now thrown away.

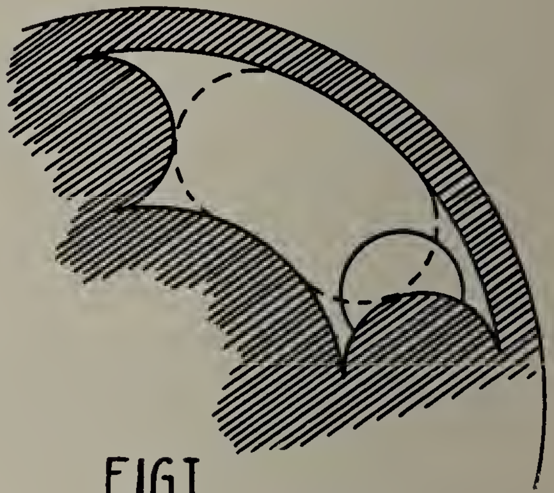


FIG.1.

This shutter is used also in motion picture work, frequently with more than one opening. The edges are straight; and hence, the efficiency is greater than in the hand-camera type. Further improvement could be made, however, by adopting the reverse curves shown in the figure.

A shutter used on folding cameras of a certain make has two blades moving in opposite directions about a common pivot. The second figure shows

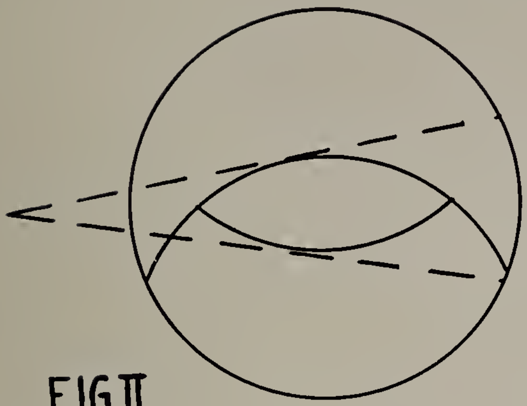


FIG. II

it partly open. Why the blades were curved, the makers probably never stopped to consider. Since the lens is at its maximum aperture for only an instant, the type is about as inefficient as would likely be made without an especial effort. If the blades were cut straight, as indicated by the dotted lines, the shutter would begin to open across the entire width of the lens at the widest part. The construction of a variation of this form was described in the *American Annual* many years ago. It had the same inefficient circular openings.

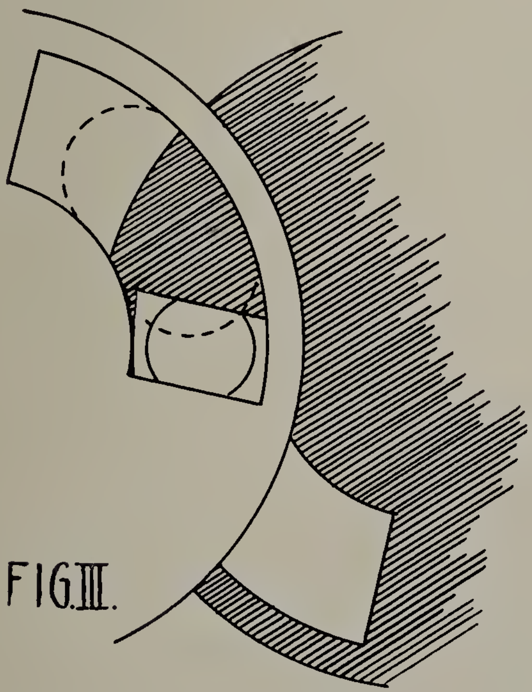


FIG. III.

A form which seems worthy of more extensive use than it has had is pictured in figure III. The disadvantage of it is size; but it has several features of merit. The two disks, which rotate in opposite directions, may be set in motion without immediately exposing the lens, and thus they may be given time to attain maximum velocity. Likewise, it would not be necessary to stop them suddenly. This would permit the use of greater spring tension than is ordinarily desirable. The time needed to reach full aperture is probably as small as in any shutter; it is the time required by the blade to move over half the diameter of the lens. Although the efficiency during opening is less than 57%, the total illuminating power may be made very great by increasing the length of the slit and hence the duration of maximum aperture. The figure is planned to give the same length of exposure as the rotary shutter first considered. The dotted curve indicates the relative sizes of the slits, thus showing how much greater would be the illumination at a given instant of the exposure. This difference brings the efficiency up to about 87.5% instead of 67% for the same speed of rotation and the same duration of exposure. In some cases, this type could probably be adapted to motion picture work, and the saving of light would be considerable.

It seems to be considered by many that the focal plane shutter is as near perfection as we can hope to come. There is, however, little or no justification for such an opinion. The ability of a shutter to stop motion depends upon the time required for the blade or slit to cross the beam of light coming through the lens. To have the time a minimum, the shutter should work where the beam is narrowest—that is, at the lens. The focal plane mechanism stops motion, piecemeal, thereby causing the distortion which makes it useless for anything but caricatures if the objects are in rapid motion. From any sensible point of view a picture is a failure that shows an automobile racing on elliptic wheels.

In regard to the efficiency, it is often said of this shutter that the whole lens acts during the entire time of exposure. This is not true, especially at the high speeds. Of course, the screen cannot be in contact with the emulsion. Hence, the edges of the lighted portion are not clearly defined; there is a penumbra which varies in width under different circumstances. The part of the plate being exposed consists of a strip having a hundred per cent. illumination and of two strips in which the light varies from zero to one hundred per cent. The average strength of the light on this area shows the power of the shutter. It decreases if we use a shorter focus, a larger diaphragm, a narrower slit or if we move the blind further from the plate. With equivalent aperture one inch, focus six, slit one-quarter and distance from plate one-eighth, the efficiency would be about 92%. With one of the largest lenses, one and a quarter inches, and the shutter further from the plate, one-quarter, the result is less than 83%. It is hardly to be doubted that these figures can be equalled and the distortion eliminated by a lens shutter if it is permissible to use the bulk and weight that go with the focal plane.

HOW TO WORK WITH A STAND CAMERA

OPINIONS differ as to whether the best training in photography is to be obtained with the hand or the stand camera. Perhaps we shall have said enough if we suggest that the stand camera tends to thoroughness and conscientious work, while one may be superficial with the hand camera. This is not to be interpreted as meaning that all the best photographic work is done with the stand camera. But anyone who will take the trouble to carry a stand camera about, and to open it and set it up, and so on, will be likely to expend a little time and trouble in selecting the best point of view and in getting the correct exposure. The beginner with the hand camera who is not very systematic perhaps, will merely need to point the instrument in the right direction and press the trigger of the shutter in order to feel that he has taken a photograph, and this not infrequently means exposing without due regard to the conditions of light and subject then obtaining.

For certain classes of work the stand camera is essential. Its movements, such as swing back, and rising front, and its rigid support, enable it to secure subjects which could not be taken by a hand camera pure and simple.

One of the difficulties of the stand camera is that it requires setting up, and if this has to be done in any place where people are about, or likely to be about, the beginner is so nervous in many cases that all sorts of trouble occurs, mostly imported trouble. Many people can open out and set up a camera on their own sitting-room table, but are at a loss where there is nothing on which to lay any portion of the impedimenta. This may be got over quite easily by adopting a regular sequence of operations. As the camera is to be supported on a tripod stand, the obvious thing to do is to open out the tripod and set it up first of all. The three legs will be extended and the head attached. Then the camera may be attached to the stand by its screw and afterwards opened out. There are a few patterns where the design of the baseboard will not allow of this being done, and the baseboard must be unfolded first. With the very popular form of turntable baseboard the tripod legs will be unfolded first and then the camera taken out and the legs attached to the turntable, one at a time.

Having got the camera firmly attached to the legs it may be opened out, remembering the golden rule that force should never be applied. The back should be set truly perpendicular to the baseboard, this position being usually determined by a notch cut in the side of the slot in one of the side stays, into which slot the lock-nut drops. When the part has been erected the lens may be screwed into position and brought exactly opposite the center of the plate if general landscape work is to be done. Where street scenes are contemplated it is often well to place the lens a little higher so that an excess of foreground is avoided. In landscape work, however, when there are no buildings in the view, it is not necessary to keep the camera absolutely level, and the proportion of the foreground may be adjusted by simply tipping the lens up or down a little as may be required. Where buildings are included, the camera must be kept with its baseboard level if a swing front is used, and if a swing back, then the back must be so adjusted that the ground glass is absolutely plumb. In the former instance it will be seen that if the baseboard is level the ground glass will be plumb, for the one is at right angles to the other. This adjustment is effected by the aid of a spirit level attached to the side of the camera back or by a little plumb indicator, a sort of pendulum bob.

To get the baseboard level is quite a simple matter if the camera is set up on reasonably level ground. One of the tripod legs should be pointing forwards, and the worker should stand between the other two. Levelling may then be done by moving one leg only at a time, and if the spread is considerable to commence with, the point of a leg may be drawn slightly inwards, thus raising that side of the baseboard just a little, until the required level is obtained. After a little experience has been gained, it will be found that the eye becomes so accustomed to the work that only a fine adjustment needs to be made.

The height of the camera is an important matter for two reasons. The lower the camera is the greater the importance given to foreground objects. The higher the camera the more will the lens be looking down on the foreground and middle distance (assuming a level baseboard), and the greater the risk of obtaining a sort of uphill effect. The other reason is that of comfort in working.

There are times when the highest possible viewpoint is desired and no inconvenience or discomfort is considered too great, but as a general rule the camera should be such a height from the ground that it is easy to see the ground glass without either stooping on the one hand or standing on tiptoe on the other. Exceptions are found where special subjects are being photographed. Flowers growing quite near the ground will generally demand a low camera, and then the tripod may be shortened and focusing done by kneeling or sitting down.

When the camera is being used on smooth surfaces, such as the floor of a church, it is a little difficult to prevent slipping of the points. Sometimes the point may be fitted into the join. With marble floors the joints are so fine that this cannot be done. Slipping may then be avoided by tying the three legs together, but this is best done by having a ring with three pieces of string tied to it. The ring occupies a central position, and one piece of string goes to each of the three legs. Another little dodge which works well if the spread of the tripod is not very great is the slipping of a short length of rubber hose-pipe over the end of each tripod joint. The rubber grips the smooth floor and prevents slipping.

Sometimes in very windy weather there is trouble arising from vibration of the whole apparatus. Especially may this be so, if the camera is a very light one. The old heavy patterns had certain advantages accruing from their weight. But it is always possible to add to the weight of the outfit, and a good plan is to tie a heavy stone to the under side of the tripod screw. Some workers find it better to have a small, strong linen bag which may be filled when required with pebbles or sand and hung under the camera, for it is not always an easy matter to find the required heavy stone. Whether the bag is used or the large stone it should be suspended so that it is quite near the ground, so that if the string should break the stone will not drop on the worker's toes.

So far we have said nothing with reference to the work of focusing, putting the slide into position and exposing, yet these things may be done properly or done in such a way as to lead to all sorts of trouble. Usually, focusing should be done at the open stop first, the stopping down being continued until the required degree of definition is obtained. But in stopping down it must be remembered if the nearest portion of the view is sharply focused at full aperture, a much smaller stop will be needed to get the distance sharp than would be required if good definition is first secured on an object some little way into the picture. In other words stopping down sharpens up the image of objects *further away from* and *nearer to than* the object sharply focused at full aperture. In some cases it is not very material whether the stop is a large one or a small one, but in others the small stop by prolonging exposure gives rise to difficulty when the subject or portions of it may be likely to move.

Focusing completed, the ground glass must be turned back or removed, as the case may be, and the dark slide inserted. This should be possible without the least risk of moving the camera. That is, the slide should be tight fitting so as to exclude all light, yet it should work with perfect ease, requiring practically no force. The commonest cause of stiffness is damp, this causing a slight swelling of the wood. If the slides are a good fit, the working portions may be lubricated by means of powdered black lead cautiously applied. French chalk is also used, and though not quite so effective as the black lead, is rather cleaner.

During focusing the tripod screw may have been slightly loosened to allow of the camera being turned from side to side so as to get the desired view, or if a turntable is fitted, the locking nut will be loosened for the same reason. Before inserting the dark slide the screw or nut must be tightened up, or the camera will be slightly swung round.

When the slide is in position it is always well to keep it covered with the focusing cloth, for though everything should be perfectly light tight, it is well not to run unnecessary risks. In drawing out the shutter of the slide, however, take care to draw the right one! We have heard of the wrong slide being drawn, the result being, of course, to hopelessly fog the second plate in the slide. If the slide is fitted with some form of safety catch or indicator, there is not much risk of exposing the same plate twice, but if not a note should be made at once, preferably before the dark slide is removed from the camera, of the number of the plate and the subject, together with any other details as to stop, exposure, and so on. If this is systematically done double exposures should be almost impossible.—*The Amateur Photographer.*

"THANKSGIVING" R. R. Sallows

CONVERTING PAPER PRINTS INTO TRANSPARENCIES

BY "CHEMIST"

THERE are many instances where a good paper print would be valued as a transparency, in which the print could be used for window or glass panel decoration. The main difficulty lies in making the print translucent. Some extraordinary effects may be produced if a print is made from a negative so prepared that the outlines of the figure are stopped out in line form so as to imitate the lead light work of a church window, and the print colored with transparent water colors, because these colors will not run when the translucing material is used. Nearly all of the gaslight papers may be used for this very interesting work, and those who are skillful with the brush may work in a background that will give the effect of an engraved or etched drawing. Portraits and views may be treated and employed in many instances where the colored window decorations are used to-day by being affixed to the window pane. There are several means whereby a paper print may be made translucent, but they will not answer the desired purpose when the time comes to affix them to the window pane. For instance, the employment of wax, paraffin, or castor oil, all of which will make a paper print translucent, cannot be used because of their resisting property to prevent the sticking or affixing of the print. There are other preparations that will answer the purpose perfectly that may be used by anyone who will exercise a little patience and make up their mind to be successful. These points are mentioned because sufficient time must be given to allow the translucing material to permeate the paper thoroughly and prevent drying in spots, which will occur if sufficient time has not been given for complete penetration in the first place.

It may be mentioned here that the gelatine printing out papers do not answer so well as the developing papers, the defect being due to the markings of the baryta coating, which is employed to give a suitable base for the gelatine emulsion to rest upon. Such papers as aristo platino, however, can be used and give excellent results. This class of printing out paper is a *colodion* emulsion paper and is capable of being made translucent by any of the preparations for translucing given here.

The best papers for this class of photographic work are the thin ones because these give the nearest approach to a transparency after treatment. It will be advisable to prepare enough of the translucing material to cover the bottom of a tray large enough and deep enough to more than cover the print or prints to be treated. This will insure complete permeating of the print, not merely by dipping but by allowing the soaking of the print for half an hour, when it may then be drawn over a glass rod and suspended to dry.

TRANSLUCING MATERIAL NO. 1.

Best pale oak varnish	4 ozs.
Spirits of turpentine	½ oz.
Gold size	2 drams

This mixture will keep well, and should any be left over, it may be preserved in a well-corked bottle for future use.

TRANSLUCING MATERIAL NO. 2.

Balsam of Fir (Canada Balsam)	4 ozs.
Spirits of turpentine	1 oz.
Poppy oil	2 ozs.

This forms a pale translucing compound. It may be tinted if desired so as to give the print a pale, pink color by adding twenty drops of an alcoholic solution of alkanet root.

TRANSLUCING MATERIAL NO. 3.

Canada Balsam	4 ozs.
India rubber cement solution	4 ozs.
Baryole (made from coal tar)	4 ozs.

In all probability two coatings of this preparation may be required. This will, however, depend upon the quality of the paper. If upon drying semi-opaque spots show themselves, the print must be allowed to soak a second time for half an hour. This will overcome the difficulty.

If the prints are colored at all, only water colors of the transparent variety may be used, which must be done previous to being treated with the translucing material. In preparing prints for translucing they must be printed much deeper than for ordinary purposes, because these prints it must be remembered are to be viewed by transmitted light, every part of the print becomes lightened up because of the translucing process. This fact is mentioned so that disappointment may be avoided even in making the first prints. To be successful in the beginning will cause complete satisfaction and bring about an inducement for the production of more prints that will add to the decoration of any apartment. Any photographer could turn this process to account and add to his income by the sale of such prints, or make them to order, while any over-printed samples might be turned to account instead of consigning them to the waste bag. Photographs of yachts, sailing ships and steam vessels could be suitably colored, made into semi-transparent pictures and offered for sale. The sea and sky also could be suitably colored and thus made into a saleable article that would be sure to create a profitable side line in any photographic business, while the amateur would be able to produce photographs of unusual merit and self satisfaction as well as a specialty that would both interest and charm his friends. A vase containing a nosegay of flowers, suitably photographed, and the flowers and ornamental portions of the vase colored, and then made translucent, will produce a very attractive window or panel ornament. The greens and browns of various trees, shrubs and flowers are very suitable in this class of photography for coloring, then when the prints are made translucent render a photograph very close to nature. Photographs treated as here described are made proof against the sulphurizing action of the atmosphere, as well as against damp and other atmospheric influences. This treatment aids consequently in making the print permanent. Of course, the making of the print in the first instance must be thorough, so as to be sure that no hyposulphite of silver is left in the pores of the paper.

CURRENT EVENTS *and* EDITORIAL COMMENT

SOME months ago we printed a short paper by the Managing Editor of this magazine on the mysterious "Lost River" of the White Mountain region in New Hampshire. This article was accompanied by some photographs illustrating the river, but the light conditions were not favorable at the time for making some pictures which the Editor greatly desired to show his readers of this very interesting natural phenomenon. He, therefore, presents with much pleasure in this number of The Times two rather good pictures of the river; one showing it above the place where it suddenly disappears into the bowels of the earth; the other, showing the river at the very place where it enters its cave-like course beneath the surface of the wooded earth. The Editor, and his party, followed the subterranean course of this picturesque and remarkable stream for more than a mile, finally emerging to the surface of the earth again, below its famous "Rainbow" Falls.

The second picture gives a fairly good idea of the character of this passage. It was over and under huge granite boulders, around the sharp edges and along the smooth sides of water polished rocks; up steep declivities, and then down rocky places, no less precipitous. Now, in almost total darkness, and again into a dimly lighted vaulted chamber, where faint daylight was admitted through a crevice above.

The Rainbow Falls drop into an open basin almost entirely illuminated by the light of heaven; so here we could make a fairly good exterior picture, like the two which illustrate these notes. In other places only flashlight could be used.

☆ ☆ ☆

CHROMIUM INTENSIFICATION STAINS

Many amateurs are in the habit of placing a plate to be washed in a fairly deep dish and of very little larger size than the plate. This arrangement is put on the sink and a stream directed into one corner of the dish. But most of the water runs into the dish and out again at or near the same corner and has little effect on the center of the plate, hence not only chromium, but also a long list of other troubles due to imperfect washing. The efficacy of a washing arrangement is not to be measured by the quantity of water used or wasted. By a rational system one can wash a plate both quickly and effectively and with far less water than is generally used to do the work very imperfectly. One of the most simple and practical methods is to use a large shallow dish in which the plates are placed. That end of the dish into which the water flows is raised half an inch or so by means of a wooden wedge placed underneath it. By this arrangement the entering water—if properly adjusted—spreads out into a flat stream, which, passing somewhat slowly over the plates, washes them far more effectively than does a big, splashing, quickly-rushing stream. To remove these red chromium stains we may try a hypo bath acidified by potass metabisulphite, or a 5 per cent. solution of metabisulphite, or a solution of sulphite to which either a little sulphuric acid or some metabisulphite has been added. The removal of these stains is usually a long process at best, and, moreover, is not always possible. The better plan clearly is to give more attention to the washing part of the business.

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Photographers in general may be classified into two groups—those who have some definite aim behind their work, and those who snap-shot more or less indiscriminately at anything that turns up. The latter class soon get tired as the novelty passes away, and take up some other hobby for a while, which in turn is cast aside. For this, if for no other reason, we always advise those who come to us for advice to think out some subject which has for them a special interest, and make that the mainstay of their work. This by no means implies that a worker should rigidly limit himself to his one selected specialty. On the contrary, a complete change of subject is often advisable on several grounds. The best worker will in time get "stale," or develop a cramping mannerism, if he has only one outlook. But after a change of subject he will return to his special line with refreshed mind and eye. We know of a well-known and able exponent of architecture, who now and again branches off into portraiture or landscape; and then returns to his first love with renewed pleasure and advancing success. Not a few workers get the notion that picture-making is the chief, if not the only worthy, line to follow, and, not being endowed with the pictorial sense in any marked degree, soon get discouraged and give up camera work. This over-accentuated importance given to pictorial photography is probably the result of the general trend of our exhibitions, for in many cases the purely technical work is given scant, if any, recognition, and bestowed in the dark corners of the room. Though we are very greatly interested in and attracted by good pictorial work, yet we fully recognize the importance of camera work in many other directions, of which survey and record work is one. It may not be very flattering to the pictorialists to say that perhaps the purely technical work will outlast the pictorial work, but yet it may be true all the same.

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The early riser at this time of the year can scarcely fail to notice the slight presence of fog or mist that so agreeably softens the various planes of the retreating distance. If now he will be at the trouble to study this phenomenon with a little attention he will soon perceive that a great deal of this very charming effect is due to the different distances being slightly obscured by different quantities of intervening fog or haze. The mist being practically uniformly distributed in the space between ourselves and the different parts of the scene, it follows that the further away an object is, the more it is affected in appearance by the mist. This is so familiar and so easily accounted for on a moment's consideration that apology should be made for referring to the subject were it not the fact that quite a large number of photographers are continually forgetting it. One is frequently meeting with prints with some such title as "An early-morning effect," &c., where there is shown an even distribution of something like fog or mist all over the scene. Whence it would appear that we are invited to believe that the haze, fog, or mist present had precisely the same effect on a tree trunk perhaps ten yards away as it had on a cottage a hundred yards from us, and also on a mountain some miles distant.

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This misconception or misrepresentation of affairs is partly due to lack of observaton of Nature, and partly to the unfortunate use of the word "fog" in a special photographic sense. What the photographer is pleased to call fog is not infrequently the effect of light followed by the chemical action of his developer, resulting in the deposit of a layer of minute particles of silver dust, which may be locally accentuated, or evenly distributed all over the plate. But it is difficult to imagine that it can be unevenly distributed so as to correspond to the appearance of Nature. If the fog veil on the plate be evenly distributed it is no more like Nature's fog than the effect that we see on looking at a natural scene through a piece of finely ground glass. In a word, Nature's fog and the photographer's dark-room fog have practically nothing to do with each other.

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ON NAVAL ADVISORY BOARD

The make-up of the Naval Advisory Board of Inventions, the organization of experts, who will contribute their inventive genius to the navy, of which Thomas A. Edison is to be the chairman, has been announced by Josephus Daniels, the Secretary of the Navy.

The board will consist of twenty-three members, including Mr. Edison, who was selected by Mr. Daniels to serve as the presiding officer of the board.

Members of the board were chosen by ballot by eleven of the principal scientific societies of the country whose members deal with those branches of science on which the navy is thought to be dependent for invention.

Among the twenty-two honored we are pleased to find L. H. Baekeland, Yonkers, N. Y., University of Ghent, '82, founder of the Nepera Chemical Company, 1892, and inventor of photographic paper.

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Most of those who employ the autochrome process of color photography have experienced at some time grievous disappointment at finding an otherwise charming result somewhat spoiled by the presence of a minute green spot. The defect is so small that it may easily escape notice entirely when viewing the transparency in the hand, but when it is projected on a greatly enlarged scale on the lantern screen this green spot is undesirably evident. There has been devised and, in an encouraging measure, carried out, a plan for getting rid of these green spots. First of all he boldly cuts out the spot altogether, right down to the glass, thus leaving a bare glass spot. Next a lantern plate is put film to film with the autochrome, and such an exposure made that while the clear glass spot prints its latent image, yet on development there is little or nothing of the rest of the picture to be seen on the lantern plate. But if a ghostly image of the picture is seen on the lantern plate it may either be removed by a "reducer" or ignored altogether. Development is carried to such a stage that when the silver spot on the lantern plate is fixed, dried, and colored with transparent water color to match the adjacent parts the silver plus color just fills up the hole in the autochrome when the lantern plate is in register with it—film to film, of course. It will easily be seen that this process is one requiring delicacy of handling as well as a nice judgment both in the exposure and development of the lantern plate.

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There is no such thing as waste material in the world; it is only our ignorance in not knowing how to use the things that lets us call them waste. The coal tar of the gas works was at one time called waste; but now it is proving an inexhaustible mine from which the chemist can extract literally thousands of usable things. It has been said that a fortune awaits the man who can utilize worn-out tooth brushes. We do not know anything about making fortunes; but we do know one use for the bone handle part of this useful article of the toilet. If the brush part be cut off we can then file down one end of what is left of the handle to something like the end of one's first finger nail. We now have something that may be used in the place of the finger nail when we want to pick up a photographic plate in a solution that stains or otherwise is undesirable for the fingers to touch.

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Some of our readers may not know that if a bromoil print be somewhat liberally pigmented or inked, and then laid face down on a sheet of smooth or very slightly matt clean drawing paper or other similar paper, and the two papers pressed into intimate contact with even pressure, and then gently separated, it will be found that the greater part of the ink has left the bromide print and been transferred to the previously blank sheet of plain paper. In other words, we have a "bromoil transfer." It owes its inception to M. Demachy of Paris who has carried the process to its apparent limits. It may be asked, what is the point of putting pigment on to a bromide print in order to take it off again? The answer is, that hereby we are enabled to employ a very much greater range of choice of papers than is afforded by bromide papers; moreover, the somewhat glossy or greasy looking surface of most smooth bromide papers is greatly disliked by many people of taste. In transferring an ink image from a smooth bromide paper surface to a smooth or finely matt surface uncoated paper there is necessarily some loss of fine definition, but this loss, or "suppression," as some prefer to term it, is regarded as an advantage by many.

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TEN YEARS' WORK OF A MOUNTAIN OBSERVATORY.

A brief account of the Mount Wilson Solar Observatory of the Carnegie Institution of Washington, by George Ellery Hale.

This little book clearly records a general survey of the work accomplished and the possibilities of the future of this valuable Institution, and is full of interesting information for the photographer of solar and stellar spectrocopy.

The eleven departments of research of the Carnegie Institution of Washington, of which the Mount Wilson Solar Observatory is one, are located in various places selected because of their suitability for the several purposes in view. Information regarding the work of the Institution may be obtained on application to the Office of Administration, Washington, D. C.

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COURSES IN PHOTOGRAPHY

For the past four years the Department of Photography of The Brooklyn Institute of Arts and Sciences has been conducting courses in photography for the benefit of amateur photographers who feel that they can improve their work by taking a course where personal instruction and demonstrations are given.

There will be two courses, one for the novice or beginner, and another for advanced workers.

The tuition fee is very nominal.

These courses in the past have been successfully conducted by Mr. William H. Zerbe, who will again assume charge.

Write for a prospectus to The Brooklyn Institute of Arts and Sciences, Academy of Music Bldg., Brooklyn, N. Y., or to William H. Zerbe, 345 Spruce St., Richmond Hill, N. Y.

Mr. William H. Zerbe, in the first of his series of photographic talks and demonstrations, will devote the evening to the amateur and his troubles, giving advice and criticism to such as need it.

Photographers are invited to attend this talk and to bring their photographic troubles with them. Very few amateurs there are who haven't got some perplexing problem which they are unable to solve. Mr. Zerbe will try to solve them for you. Bring prints and films that have not turned out satisfactory to you, and in which you are unable to locate the trouble. In this talk you not only can learn from your own failures, but from those of others.

☆ ☆ ☆

One of the healthy and very welcome signs of the times is the steadily extending interest in the study of objects of Nature—using that term in its widest meaning—and more especially is this welcome in the case of the education of the young. We know of no line of study so well calculated to cultivate the faculties of observation and reasoning as the study at first hand of, and the personal contact with, Nature. And when this is combined with the universal and reliable "note-taker," viz., a camera, we get very near to an ideal and entirely delightful, never staling, line of study of permanent value. May we take this opportunity of urging the advantage of membership of a photographic society? Someone may reply that he is only interested in a special line of work, and that in the local society no one else takes any interest in this subject. But may we remind such a one that there are in existence at the present time quite a considerable number of photographic societies whose members are either experts in or take a special interest in some special line of work.

☆ ☆ ☆

We might further add that there are also quite a large number of postal or portfolio clubs which have collections of members' prints in continual circulation for the purpose of gathering criticism, help, or suggestion from the members at large. It has been our pleasant duty from time to time to act as critic and general adviser to several of these postal clubs, and we can testify to the steady progress in the quality of the work of the members, and that in the notebook accompanying the folio it is by no means uncommon to find expressions of appreciation for the help that members have derived from their membership. Some individual may plead that he is not sufficiently advanced to join a society of experts. A few societies demand a certain level of excellence before admission, but in the majority of cases there are no such limitations, and the beginners are always welcomed. The "old hands" are quite ready to place their extended experience at the disposal of all who ask for guidance.

☆ ☆ ☆

There is yet another danger to which attention may here be called—that of regarding the technicalities of the making of the picture as the be-all and end-all of the matter. We may admire copper-plate writing, faultless grammar, and elegant diction, but if the writer has nothing of interest or importance to say, cui bono? Technique is merely a means to, but not an end in itself, as some seem to think. In one branch of photography at least there is great danger of making this mistake. We refer to photomicrography. A friend produces from his pocket a print, and with an air of triumph says, "Three thousand diameters." "What is it?" we ask. "Section of a fly's eye." "What are those dark lines?" "Oh, I don't know anything about the thing itself, but look at the definition." Definition or resolution and magnification are, of course, highly desirable qualities, and enable us to state visible facts. But if we have no definite ideas as to the facts to be stated then it becomes chiefly a matter of optical gymnastics. The photomicrographer who aims at enriching the general stock of knowledge should strive to make himself acquainted with what others have already done, so as to be in a position to observe any previously unrecorded appearances.

☆ ☆ ☆

Mr. A. E. Biermann, who has worked the autochrome process from its introduction, has given the fruits of his valuable experience. He makes certain departures from the usual routine as set forth in the printed instructions, as circumstances may indicate. His standard of exposure in bright sunshine is one second at f/8. Under ordinary circumstances with an ordinary plate this would be equivalent, of course, to two seconds with f/11, and four seconds with f/16. But in his procedure he multiplies the f/8 exposure not by 2, but by 2½, when changing from f/8 to f/11, and again multiplying this by 2½ for f/16, thus getting 6¼ in place of the usual 4. His developer is Quinomet, but here, again, instead of adhering to the usual one-in-four solution he may dilute it down to one in twelve, suitably extending the time. Here, again, his method is personal. He notes the time taken for the image to appear, squares this number, and then multiplies this by four.

For instance, suppose the "time of appearance" were 5 seconds, squaring this we get 25, and multiplying this by 4 we get 100, which is the indicated total time of development. It is particularly interesting to hear of these various ways of working this alluring process and getting excellent results, as it shows how flexible it is and that there is room for individuality.

* * *

A notable advance in connection with Rontgenography, as it is sometimes called, is in the direction of differentiating and sorting the complex mixture of radiations which are given out by an excited vacuum or Crookes tube. In the case of ordinary visible light this is usually done by passing the mixture of variously colored lights that we call white through different ray filters or colored transparent media, which permit certain rays to pass while others are filtered out or absorbed. But in the case of the vacuum tube emanations the filter—if we may so call it—is a sheet of chemically pure metal, such as copper, for example. This permits certain emanations to pass through, while others are—shall we say—absorbed and in turn give rise to secondary emanations or radiations, so that one might roughly compare it to something like selective reflection, as these secondary emanations leave the metal plate in a direction different to that in which they receive the exciting radiations. The practical point of all this is that while the tube gives off a mixture of rays, this metal filter gives off a selected group which is constant in quality and quantity. Hitherto radiographers have been greatly handicapped by the inconstancy and uncertainty of the tube rays, so that this recent advance is regarded by them as of immense importance both in theory and practice.

* * *

THE BROOKLYN INSTITUTE OF ARTS AND SCIENCES

Department of Photography, Academy of Music Building. Proposed Events of the Department of Photography, Season of 1915 and 1916.

Loan Exhibition of Prints

October 4
November 1
November 29
December 27
January 24
February 21
March 20
April 17
April 29, 26th Annual Exhibition.

Demonstrations

October 15
November 12
December 10
January 7
February 4
March 3
March 31

Lectures on Photography

October 29
November 26
January 21
February 18
March 17
April 21

Classes

Instruction in Art Photography—October 7 to April 20, First and Third Thursday Evenings and Four Saturday Afternoons at Studio Work.

The Photographic Times

With Which is Combined

The American Photographer and Anthony's Photographic Bulletin

Classified Advertisements

Advertisements for insertion under this heading will be charged for at the rate of 25 cents a line, about 8 words to the line. Cash must accompany copy in all cases. Copy for advertisements must be received at office two weeks in advance of the day of publication, which is the first of each month. Advertisers receive a copy of the journal free to certify the correctness of the insertion.

RATES FOR DISPLAY ADVERTISING SENT ON APPLICATION

THE PHOTOGRAPHIC TIMES PUBLISHING ASSOCIATION,
135 West 14th Street, New York.

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1 Box and Directions, 30 cents

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300 from 1 negative,	4.20	from 5 to 10 negatives,	6.30
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KEEP yourself posted. Read all the advertisements in this issue carefully—and don't forget to mention THE TIMES when you write.

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HOLIDAY HINTS.

Time and Christmas tide wait for no man and the sooner we can get our holiday plans under way, the better for all concerned. Half the fun of Christmas is preparing the gifts—at least it is for us Kodakers with such a wealth of material with which to work. Of course, there must be a few pretentious gifts, but for a good part of our Christmas list, presents having Kodak pictures as a basis are just the thing.

First and foremost is the Kodak album filled with pictures of particular interest to the one we wish to remember. This makes an ideal gift, one that is appreciated much at the outset and even more in the years that follow. What better gift than such an album for members of the family or old friends whom business has called far away from the old town? For your brother out West, for example. Wouldn't he appreciate an album containing pictures of some of the old town land marks as well as impromptu portraits of the family and snap-shots of scenes and happenings that were once as familiar to him as they now are to you? And for the old friend back East. Wouldn't he just revel in an album of this kind—pictures showing changes that have taken place both in the town and the people he used to know so well? This is the kind of gift that touches the heart and sentiment can hardly be out of place on Christmas day.

And then there are the calendars. Your Kodak dealer has a complete line of 1916 Souvenir Calendars that a print, carefully selected from your collection, will complete. These calendars are sure to please you and are equally sure to please your friends. They are "craftsman" in design and are even more effective than the calendar lines of previous years. The Souvenir Calendars are equipped with an easel back and are made up in olive marble and brown marble, the former being especially suitable for black and white and the latter for sepia toned prints. They are manufactured for either horizontal or vertical prints in any of the standard amateur sizes.

A novel feature of the calendar line is the Year Book Calendar. The Year Book Calendar gives plenty of opportunity for original work. It consists of twelve mounts on each of which is a calendar for the current month. At the top of each mount, space has been reserved for a print and at the left of each calendar pad, additional space for an appropriate little word story suggested by the picture. The price of the Year Book Calendar is fifty cents.

Souvenir Calendar.

You will find that Velox Transparent Water Color Stamps fit in very nicely with your Christmas gift plans. Through the medium of these stamps, the colors that your eye saw as you clicked the shutter may be easily and cleverly reproduced on the print. The colors are self blending and the veriest novice will experience little difficulty in securing excellent results from the start. A complete outfit of Velox Transparent Water Color Stamps, including book, three brushes, and palette costs seventy-five cents while the booklet of stamps alone costs twenty-five.

THANKSGIVING AND THE KODAK PORTRAIT ATTACHMENT.

Above all things, do not neglect to supply yourself with a Kodak Portrait Attachment in readiness for the Thanksgiving home-coming. With the family gathered together from far and near, comes a rare chance for pictures of "the sisters and the cousins and the aunts"—an opportunity that may never again offer itself. And you can only make the most of this opportunity with the Kodak and the Kodak Portrait Attachment.

The Kodak Portrait Attachment is just another lens which brings your Kodak into focus at close range—so close, in fact, that head and shoulder portraits, for example, may be made to occupy a good share of the area of the picture.

On such a day as Thanksgiving, the Kodak Portrait Attachment is worth its weight in gold—and it costs but fifty cents.

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Supposing you developed some particularly valued films and obtained poor results due to the use of impure chemicals. Where would you place the blame? On the chemicals, of course, you say. They caused the trouble, to be sure, but the fundamental blame doesn't lie with the chemicals at all—it lies with *you.* It was *your* fault that inferior chemicals ever got past the threshold of your printing room. Eastman Tested Chemicals are manufactured with the sole idea of supplying the amateur with chemical preparations of which he can be absolutely sure. The amateur who uses Eastman Tested Chemicals doesn't think that they are all right, he *knows* they are. He knows that they have qualified under the highest kind of a chemical standard, for the chemical requirements of the Eastman Kodak Company must, of necessity, be extremely exacting. He *knows* and he can't for the life of him see any use in taking chances.

Specify and insist on E. K. Tested Chemicals and look for this seal which is on every bottle or package containing them:

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ROCHESTER, N. Y., *The Kodak City.*

KODAK MAGNESIUM RIBBON HOLDER

The illustration above shows you how small and compact the Kodak Magnesium Ribbon Holder is, actual use will convince you of its efficiency. Comprising at once, a magazine for storing the magnesium ribbon and a convenient holder for burning it, the Kodak Magnesium Ribbon Holder provides the handiest kind of a printing light.

And its obvious convenience is not the only thing to recommend it. The ribbon burns with an intense white light of high actinic quality and is, therefore, a fast printing light over which the user has complete control. By the movement of the thumb over a revolving wooden disc at the top of the holder, the ribbon is pushed forward to the length desired. This is an extremely valuable feature, particularly in the making of duplicate prints. Suppose an inch of ribbon gives the right exposure for the first print. Then the amateur has only to measure out an inch of ribbon for each succeeding exposure with the knowledge that the prints will be absolutely uniform. There is no need of a watch or a timer when the Kodak Magnesium Ribbon Holder provides the illumination.

The best method for igniting the ribbon is by means of a small alcohol lamp specially constructed for this purpose. The magnesium flame is automatically extinguished when it reaches the small aperture through which the ribbon is projected. This makes it possible to snuff out the light at will by simply giving the wooden disc a reverse twist or to maintain it indefinitely by continuing to push the ribbon forward.

The light furnished by the Kodak Magnesium Ribbon Holder is so intensely white that it may be successfully used for flash light work—even portraiture although the prolonged exposures necessary are a little hard on the subject. It is excellently adapted, however, for the photographing of dark interiors and subjects of like nature.

The holder contains ribbon sufficient for about three hundred average exposures.

THE PRICE.

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Alcohol lamp, - - - - - -	.20

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has made the dark-room a relic and better negatives the rule.

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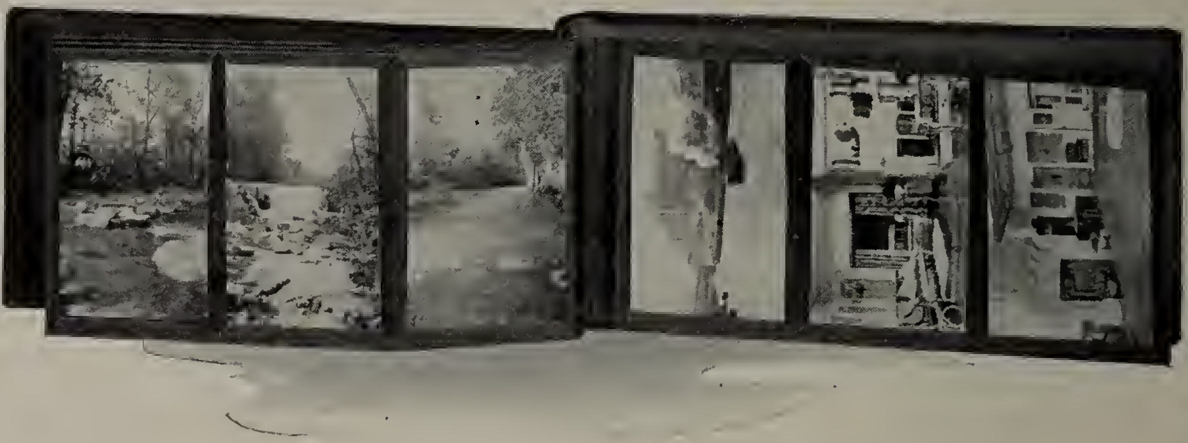

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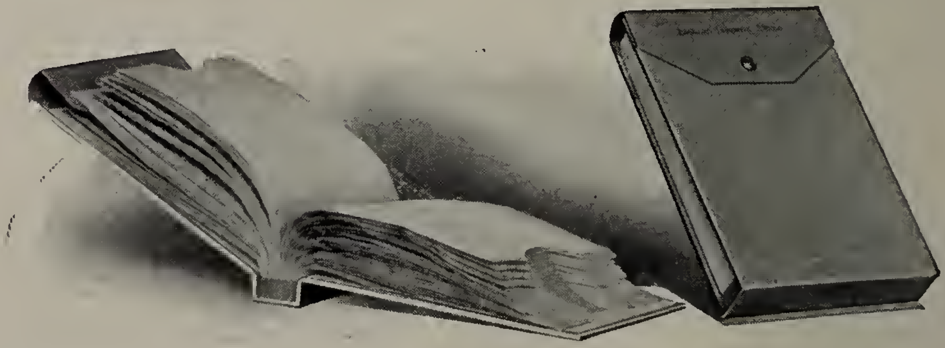

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The Year Book Calendar consists of twelve mounts on each of which is the month's calendar, the whole contained in an easel-book carton.

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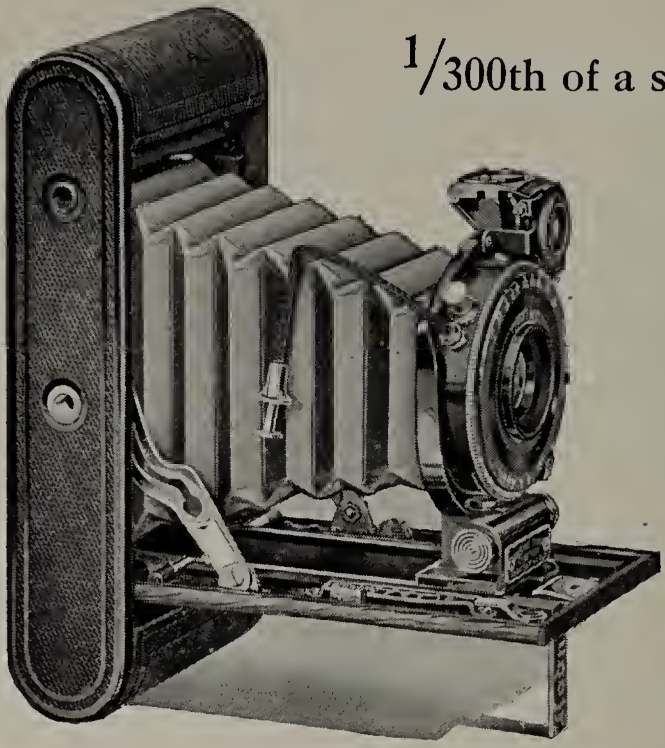

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THE PHOTOGRAPHIC TIMES
PRINT COMPETITION

ON account of the continued success of the Revived Print Competition, the Editorial Management of THE PHOTOGRAPHIC TIMES will continue these pictorial contests until further notice.

The next contest will be closed December 30th, 1915, so as to be announced in the February Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be the same as heretofore, as follows:

First Prize, $10.00	Second Prize, $5.00	Third Prize, $3.00

And three honorable mention awards of a year's subscription to THE PHOTOGRAPHIC TIMES.

In addition to which those prints which deserve it, will be Highly Commended.

CONDITIONS:

The competition is open freely to all who may desire to compete, without charge or consideration of any kind. The subject for this competition is "Flashlights," indoors or out.

Prints in any medium, mounted or unmounted, may be entered. As awards are, however, partly determined on possibilities of reproducing nicely, it is best to mount prints and use P. O. P., or developing paper with a glossy surface. Put the name and address on the back of each print.

Send particulars of conditions under which pictures were taken, separately by mail, also marking data on back of each print or mount. Data required in this connection: light, length of exposure, hour of day, season and stop used. Also material employed as plate, lens, developer, mount and method of printing.

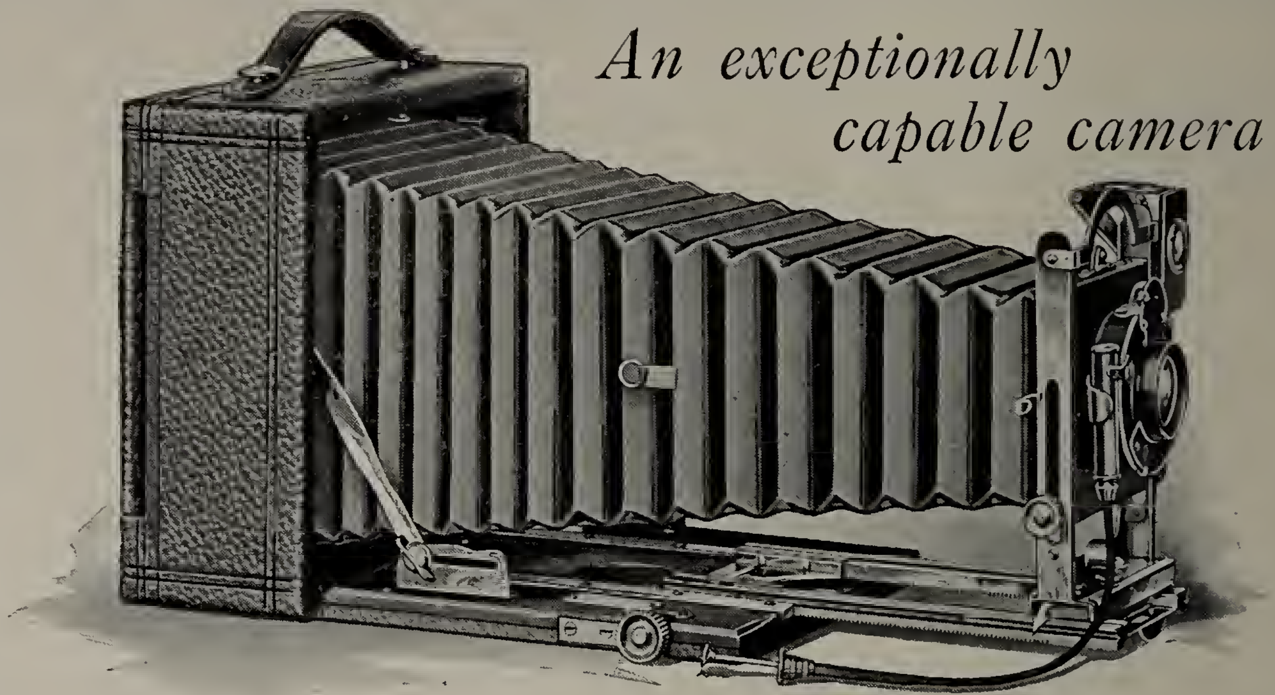
NO PRINT WILL BE ELIGIBLE THAT HAS EVER APPEARED IN ANY OTHER AMERICAN PUBLICATION.

All prints become the property of this publication, to be used in THE PHOTOGRAPHIC TIMES, as required, to be reproduced either in our regular pages or criticism department; credit will, of course, be given, if so used; those not used will be distributed, pro rata, among the hospitals of New York, after a sufficient quantity has been accumulated.

We reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Foreign contestants should place only two photos in a package, otherwise they are subject to customs duties, and will not be accepted.

All prints should be addressed to "THE JUDGES OF THE PHOTOGRAPHIC TIMES PRIZE PRINT CONTEST, 135 West 14th Street, New York, N. Y.," and must be received by us not later than December 30th.



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of THE PHOTOGRAPHIC TIMES..............published...................... MONTHLY ....

at....................NEW YORK CITY............. for October 1, 1915......................

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Business Manager	Clarence L. Usher	Montclair, N. J.
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(Signed) THE PHOTOGRAPHIC TIMES PUBLISHING ASSOCIATION,
CLARENCE L. USHER *Business Manager.*

Sworn to and subscribed before me this 20th day of September, 1915.
Catherine C. Bleir, Notary Public, New York County.
(SEAL) 286-6045 My commission expires.............March..............1916

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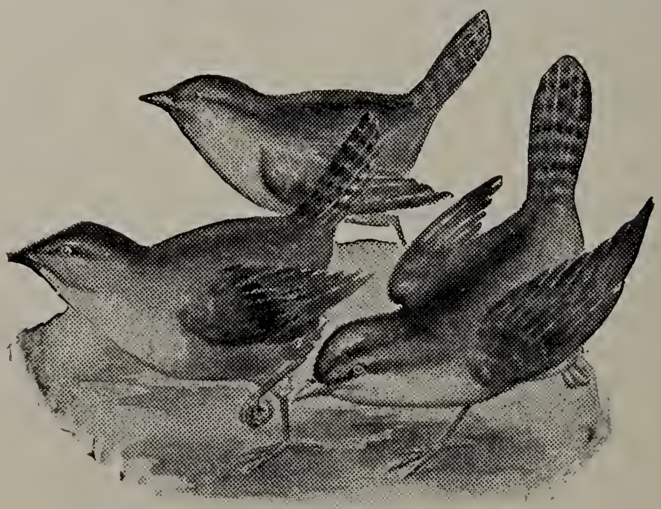

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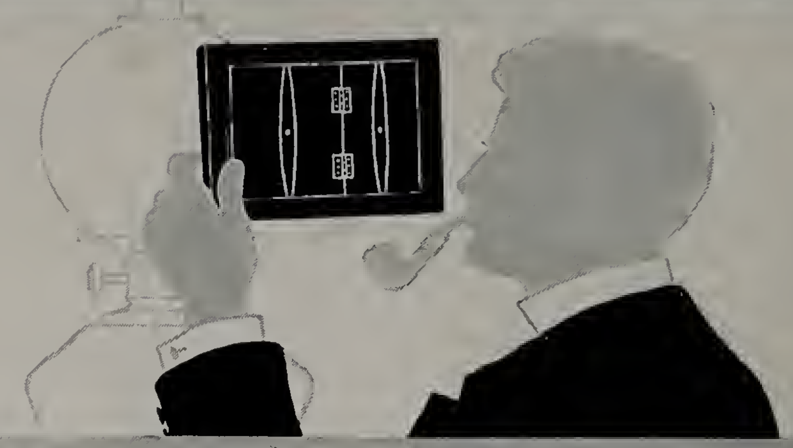

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